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Science and Engineering Doctorates: 1960-91

207

Surveys of Science Resources Series
National Science Foundation

Detailed Statistical Tables

NSF 93-301

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```
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Science and Engineering Doctorates: 1960-91

Project Officer: Susan T. Hill

Division of Science Resources Studies
National Science Foundation

Detailed Statistical Tables

NSF 93-301

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ACKNOWLEDGMENTS

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CONTENTS

Page

General Notes vii

Section:

A. Technical Notes 1

B. Survey Questionnaire 13

C. Detailed Statistical Tables 19

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GENERAL NOTES

This report is the tenth in a series based on data from the Survey of Earned Doctorates (SED). It presents data on science and engineering (S&E) doctoral awards for the 32 years from 1960 through 1991. Selected findings from the annual survey are also published by the National Science Foundation in the Science Resources Studies ***Data Briefs*** and in Selected Statistics tables.

Source of the Data

The source of the data is the SED, which has been conducted since 1958 by the National Academy of Sciences/National Research Council (NAS/NRC), under contract to the National Science Foundation (NSF) and four other Federal agencies: National Institutes of Health, U.S. Department of Education, National Endowment for the Humanities, and the U.S. Department of Agriculture. Information from this survey becomes part of the census of doctorates in the Doctorate Records File, which includes about 1,020,000 records for doctorates awarded since 1920. (The file contains only name, sex, field, and doctoral institution for recipients from 1920 to 1957.)

SED forms are distributed to all regionally accredited universities in the United States and its territories (e.g., Puerto Rico) that confer research doctorates. In 1991 there were 366 such institutions. The SED forms are collected, with cooperation from the Graduate Deans, directly from the individuals who have completed requirements for a research doctorate. Survey data are requested from those who received research doctorates such as the Ph.D., Ed.D., or D.Sc., but not from those who received nonresearch doctorates and first-professional degrees such as the J.D. or M.D. The data for a given year include the research doctorates awarded in the 12-month period ending on June 30 of that year.

Recipients of research doctorates are requested to provide educational history and demographic information. Approximately 94 percent or more of the annual cohorts of recipients responded to the questionnaire. For nonrespondents, partial data (on degree, field, and sex of recipient) taken from public sources, such as commencement programs, are added to the file. There are no estimations made for other missing data. The Technical Notes describe the extent and possible effect of missing data for S&E doctorates.

Estimates for recent years are subject to slight revision. If any nonrespondents send in a completed survey form after the year in which they graduated, or if a university corrects its list of conferrals, adjustments are made to counts for that year. Such changes represent less than 1 percent of the data, but revisions may be higher for some groups of doctorate recipients.

Fields of Study

The SED taxonomy of degree fields is based on the classification used in the Federal Government for data collection. This taxonomy, "A Classification of Instructional Programs," was developed by the National Center for Education Statistics (NCES), U.S. Department of Education. The field taxonomy has been revised periodically to reflect changes in degree programs. Changes in the S&E field taxonomy over time are shown in the notes to table 1.

This report presents data on S&E research doctorates according to groupings of fields of study as related to NSF functions. (For example, the health specialties are not included.) Broad S&E fields included in this report are the following: engineering, physical sciences, earth/atmospheric/ oceanographic sciences, mathematics, computer/information sciences, biological sciences, agricultural sciences, social sciences, and psychology. The specialties grouped under each of these broad fields are shown in table 1.

This NSF grouping may differ from the groupings used by other organizations to report SED results. For example, NRC publishes data on the "physical sciences" that include the fields of physical sciences, earth/atmospheric/oceanographic sciences, mathematics, and computer/information sciences in that one category.

Information on the limitations of the survey data is presented in the Technical Notes. Requests for additional information concerning the survey methodology may be addressed as follows:

Susan T. Hill
Division of Science Resources Studies
National Science Foundation, Rm. L-609
1800 G Street N.W.
Washington, D.C. 20550
(202) 634-4787

SECTION A. TECHNICAL NOTES

Explanation of Terms

Most data presented in the detailed statistical tables, Section C, are taken directly from the responses to questions on the survey form, a facsimile of which is included as Section B. A few items are calculated, however, and therefore need further explanation:

Median age (table 4)

Each doctoral recipient's age is calculated by subtracting the year of birth from the year in which the doctorate was earned. The median age for each group is the age at which as many older persons as younger persons received the degree.

Median lapsed time between receipt of baccalaureate and doctorate (table 5)

Total time lapse is calculated for each doctorate by subtracting the year the baccalaureate was awarded from the year the doctorate was awarded. This period would include times during which the student was registered and not registered. Median lapsed time from baccalaureate to doctorate for a group is the middle point of their lapsed time, i.e., one-half took this number of years or less time to earn a doctorate and one-half took longer.

Field-switching between baccalaureate and doctorate (table 7)

Changing the major field of study (as shown in the table) between the dates on which the baccalaureate and doctorate were awarded.

Baccalaureate-origin institution (table 11)

The institution from which the doctoral recipient's baccalaureate was earned.

Definite postgraduation plans (used in tables 13-15)

At the time the doctoral recipients earn their degree, they provide on the SED form the status of their current postgraduate plans. Data from those who indicate that they have definite commitments are used for the tabulations in tables 13-15. Definite commitments for employment or postdoctoral study include having a signed contract or continuing in predoctoral employment. About two-thirds of doctoral recipients have definite commitments or postgraduation plans at the time they earn their degree.

Since the survey is filled out about the time the doctorate is received, these plans are subject to change. A comparison with data collected from the longitudinal Survey of Doctoral Recipients has shown these data to be a reasonable predictor of employment status a year later. [1]

Evaluation of the Data

Documentation of the data presented in this report should allow the user to understand the strengths and limitations of the data. The first section compares data on doctorates from the SED with data from an external source, a national survey of institutions on all degree awards. The second section provides information on possible sources of error for the SED.

Comparison of Data with an External Source

It is useful to compare data from the SED with data from other sources to evaluate (1) general survey coverage and (2) the classification of S&E degrees. The SED collects data from individuals earning research doctorates. Another national survey collects data from institutions on all degree recipients, at each level from associate to doctorate, by field and gender (annually) and by race/ethnicity (biennially), at an aggregate level. (It does not collect data from individuals on their characteristics.) The National Center for Education Statistics (NCES), U.S. Department of Education, collects data from institutions using the Completions Survey (CS), formerly called Earned Degrees (ED) of the Higher Education General Information Surveys (HEGIS). For brevity, the source of this data series shall be referred to simply as the CS.

Evaluation of General Survey Coverage

Data on the total number of doctorates from the NCES Completions Surveys (CS) is slightly higher than that from the SED (table A). The difference in numbers is attributable primarily to the fact that the SED is limited to research doctorates, i.e., doctorates which require original research; the NCES survey includes requests for data on nonresearch doctorates as well.

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[1] ***Summary Report 1982*** (Washington, D.C., National Research Council, 1983), pp. 22-23.

Table A. Comparison of general survey coverage of doctorate data from the SED and the CS: 1960, 1976, and 1990

Selected years	Research doctorates reported in SED	Total doctorates reported in CS	Ratio of SED to CS
1960	9,733	9,829	99.0%
1976	32,946	34,076	96.7
1990 1/	36,057	38,277	94.2

1/ This is the most recent year for which degree data have been released by NCES.

NOTE: SED is the Survey of Earned Doctorates; CS is the Completions Survey. Data in both surveys are for the 50 States, D.C., and outlying territories.

SOURCES: National Science Foundation/SRS, Survey of Earned Doctorates and National Center for Education Statistics, Completions Survey

The nonresearch doctorates that are excluded from the SED are primarily in the fields of theology and education (table B). These two fields accounted for most of the difference in the total number of doctorates reported in these surveys in 1990.

Table B. Comparison of data reported in the SED and CS for doctorates in the fields of theology and education: 1990

Selected fields	Research doctorates reported in SED	Total doctorates reported in CS	Difference
Theology	273	1,401	1,128
Education	6,484	7,004	520

NOTE: SED is the Survey of Earned Doctorates; CS is the Completions Survey.

SOURCES: National Science Foundation/SRS, Survey of Earned Doctorates and National Center for Education Statistics, Completions Survey

Because the difference in coverage between the two surveys is accounted for primarily by two nonscience fields of study, the difference does not affect the topic of this report on S&E doctorates.

Another source of difference between the two surveys lies in the treatment of nonresponse for field of study and sex of recipient. The procedure in the SED is to utilize information from commencement programs to obtain data on field of study and sex of each individual who did not respond. The procedure in the CS is to impute for nonresponse based on an institution's previous annual report, if available. It is not possible to tell what proportion of the 8 percent nonresponse for the number of doctorates by field and sex were imputed by NCES.

Classification of S&E Doctorates

In the SED, the respondents are individuals who indicated their field of specialization. In the CS, the field of degree is provided by the university and therefore reflects institutional organization, such as department names, to some extent.

There are slightly higher numbers of degrees classified as science and engineering in the SED than in the CS been consistent over time (table C).

Table C. Comparison of data on science and engineering (S&E) doctorates from the SED and the CS: 1960, 1976, and 1990

	S&E doctorates		
Selected years	Research doctorates reported in SED	Total doctorates reported in CS	Ratio of SED to CS
1960	6,263	6,056	1.03
1976	18,268	17,783	1.03
1990 1/	22,677	22,000	1.03

1/ This is the most recent year for which degree data have been released by NCES.

NOTE: SED is the Survey of Earned Doctorates; CS is the Completions Survey. Data in both surveys are for the 50 States, D.C., and outlying territories.

SOURCES: National Science Foundation/SRS, Survey of Earned Doctorates and National Center for Education Statistics, Completions Survey

The differences in the number of doctorates reported in 1990 by S&E fields are shown in table D. They lie primarily in the fields of earth/atmospheric/oceanographic sciences and in the biological sciences.

Table D. Comparison of data on science and engineering (S&E) doctorates, by major field as reported in the SED and the CS: 1990

Major S&E field	Doctorates reported in:	
	SED	CS
S&E fields, total	22,677	22,000
Physical science	3,492	3,565
Earth/atmospheric/ oceanographic	769	597
Mathematics	892	915
Computer science	612	538
Agriculture	1,176	1,038
Biological science	4,331	3,851
Social science	3,150	3,091
Psychology	3,269	3,364
Engineering	4,893	4,956

NOTE: SED is the Survey of Earned Doctorates; CS is the Completions Survey.

SOURCES: National Science Foundation/SRS, Survey of Earned Doctorates and National Center for Education Statistics

The reasons for the major differences in the number of doctorates classified in biological science are found primarily in two specialties: (1) In the SED, there were 781 doctorates who reported biochemistry/biophysics as their specialty, compared with 582 reported in the CS. (2) In the SED, the field of immunology was chosen by 153 doctorate recipients, compared with 37 reported by institutions in the CS. In the CS survey, immunology is grouped under health science. It is likely that many of the degrees classified as health science fields in the CS survey are classified under biological science by respondents to the SED. In 1990, 960 respondents to the SED classified their field as health science; however, institutions reported 1,336 doctorates in health science.

The reason for the difference in the number of doctorates classified in the earth/atmospheric/oceanographic sciences lies primarily in the difference in the taxonomies used by the two surveys. The field taxonomy used in the SED contains

20 specialties, while the taxonomy used in the NCES surveys is not as detailed, containing only 7 specialties.

This indicates that, overall, the SED and the CS obtain similar data on S&E doctorates by field. There are major differences, however, when the field of study is interdisciplinary (e.g., biochemistry), a new growing field (e.g., immunology), or where the taxonomy is much more specialized in one survey than in the other (e.g., earth/atmospheric/oceanographic sciences).

Possible Sources of Survey Error

The SED is a universe survey of all recipients of research doctorates; therefore it is not subject to sampling error. Data obtained from this survey are subject to nonsampling error, however. Nonsampling errors may result from a variety of factors, including nonresponse to the survey or to a particular item; differences in interpreting questions; respondent errors; and errors made in recording the data. It is difficult to quantify the amount of nonsampling error from all possible sources. The following subsections provide known information concerning the three major sources of nonsampling error for the SED: survey nonresponse, item nonresponse, and errors made in recording data.

Survey Nonresponse

The response rate to the SED is high for a voluntary survey of individuals. The response rate averages 95 percent over the period for which data are presented in this report. The response rate was slightly higher in the earlier years and slightly lower in the more recent years of this period. In 1991, the overall response rate was 94 percent.

For nonrespondents to the survey, information on field of study, doctorate institution, sex, and baccalaureate is obtained from public sources, such as commencement programs, and added to the file. Data are not imputed for the other variables in the survey.

An analysis of the sources of nonresponse indicated that it is related to institutions, not to characteristics of the doctoral recipients. Half of the nonresponse in 1990 was accounted for by 3 percent of the institutions in the survey. In general, these institutions employed methods for collecting the survey data that resulted in low response rates or did not have any residency requirements for their doctoral programs.

To the extent that S&E doctorates are awarded by institutions with low response rates to the SED, the effect of nonresponse could vary by field. As the basic classification variable for the tables in this report, it is important to present response rates by S&E field. As shown in table E, the response rates varied from 91 percent to 97 percent across S&E fields in 1991.

Table E. Response rates of science and engineering (S&E) doctorates to the Survey of Earned Doctorates, by major field of study: 1991

Major field of study	Response rate 1/
S&E fields, total	94.2%
Physical	95.0
Physics	96.0
Chemistry	94.4
Earth/atmospheric/ oceanographic	95.3
Mathematics	93.8
Computer	97.5
Agriculture	96.1
Biological	96.3
Social	94.3
Psychology	91.8
Engineering 2/	92.4
Chemical	96.3
Civil	93.5
Electrical	93.9
Materials	93.6
Mechanical	90.8
Non-S&E fields	94.5
Total, all fields	94.3

1/ Form received with information supplied by doctorate recipient; additional information may have been secured from public sources.

2/ Includes other engineering fields not shown separately.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

Item Nonresponse

Persons who respond to the survey may choose not to provide the information requested in a particular question or may inadvertently skip an item on the survey form. The public sources already cited (e.g., commencement programs) may provide additional information. The data items reported in the tables in this report are listed in table F with nonresponse rates, showing the extent of information not obtainable from any source for the population described in each of the detailed statistical tables.

For example, the item that concerned baccalaureate field of study had the highest nonresponse rate; this should be taken into account when using data from the relevant table, number 7, in this report. While table F provides an overview of the nonresponse rates for items used in this report, each table contains more detailed data on the actual nonresponse by field; exceptions are tables 4 and 5, which contain calculations of medians.

Table F. Item nonresponse rates for data reported in the detailed statistical tables: 1991

Detailed Statistical Table	Item	Nonresponse (all doctorates)	Nonresponse (subgroups of doctorates)
1,4,5,8, 9,10,14	Sex	0.0%	
2,3,13,15	Citizenship	6.5%	
3	Race/ethnicity	6.5%	
4	Birth year (used in median age at doctorate)	5.3%	
5	Year of bachelors degree (used in median time to doctorate)	6.0%	
6	Country of citizenship for foreign only)	NA	1.6%
7	Baccalaureate field	8.1%	
8	State of doctorate-granting institution	0.0%	
9,10	Doctorate-granting institution	0.0%	
11	Baccalaureate-origin institution	5.0%	
12	State of high school (for those who attended in U.S.)	NA	0.0%
13,15	Postgraduation location (for those with definite commitments)	NA	1.6%
14	Postgraduation employer (for those with definite commitments)	NA	1.3%

NOTE: NA = Not applicable; table relates to a subset of all doctorates.
SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

Errors Made in Recording Data

The SED forms are processed on a continual basis throughout the year. When the forms are received from the Graduate Schools, they are reviewed for completeness to determine whether there is enough information to be considered a response. If so, they are ready for data entry. Two methods for data entry were used during the time period covered in this report. Completed survey forms between 1960 and 1987 were coded onto paper and then keypunched. Beginning in 1988, some survey forms were directly entered on-line into the computer. In 1989, about half of the survey forms were processed using this method, and since 1990, all survey forms were processed on-line into the computer.

An evaluation of the two methods of data entry was conducted to determine the undetected error rates for recording data from the SED. The evaluation was conducted after the survey forms had gone through the computer-editing process designed to check for completeness, legitimate range values, and internal consistency.

The results of the evaluation showed that the undetected error rate was less than 1 percent. Because the SED is a survey of individuals, an error in recording a data item affects only that item for that individual. The evaluation found that the error rate per item was 0.0037 for the paper coding/keypunch method and 0.0023 for the on-line data entry method.

SECTION B. SURVEY QUESTIONNAIRE

Survey of Earned Doctorates Awarded in the United States, 1990-91 13

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SURVEY OF EARNED DOCTORATES
AWARDED IN
THE UNITED STATES, 1990–91

Form Approved
OMB No. 3145-0019
Approval Expires 6/91

Conducted under contract by The National Research Council (NRC)
in cooperation with
The Graduate Deans,
The Council of Graduate Schools,
The American Council of Learned Societies, and
The Social Science Research Council

Sponsored by:
The National Science Foundation
The National Institutes of Health
The National Endowment for the Humanities
The U.S. Department of Education
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For further information call
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To the Doctoral Candidate:

The purpose of this survey is to gather national data about doctoral graduates. These data are important for the improvement of graduate education both nationally and at your institution.

The survey form is distributed with the cooperation of the Graduate Deans and is filled out by all persons who have completed requirements for a research doctoral degree. Please complete and return this form to your Graduate Dean. On the back of this sheet is a Specialties List for classifying your field of specialization.

The confidentiality of survey data is carefully protected.

This information is solicited under the authority of the National Science Foundation Act of 1950, as amended in P.L. 507 (42 U.S.C. 1862) Section 3(a)(6), and Executive Order 10521 (March 17, 1954). Within the extent provided by law, the information you provide will be treated as confidential and will be safeguarded in accordance with the provisions of the Privacy Act of 1974. The Social Security Number is solicited under NSF Act of 1950, as amended. Provision of the Social Security Number is voluntary; it is used for survey quality control and for federal program evaluation.

Survey data will be used for statistical purposes only. Information will be reported only in aggregate form or in a manner that does not identify information about any particular person. There are only two exceptions to this policy. Information from your form may be used (1) as part of the sample selection procedure for a longitudinal survey of doctorate recipients, and (2) information from your form may be made available to the institution where you received your doctoral degree and to the National Science Foundation, the National Endowment for the Humanities, the National Institutes of Health, the Department of Education, and the Department of Agriculture. These federal agencies are subject to the provisions of the Privacy Act.

The time needed to complete this form may vary depending on individual circumstances, but the average time is estimated to be 20 minutes. If you have comments regarding this time estimate or suggestions for any other aspect of this collection of information, you may write to the National Science Foundation, Washington, D.C. 20550, Attention: NSF Reports Clearance Officer; or to the Office of Management and Budget, Paperwork Reduction Project (3145-0019), Washington, D.C. 20503.

SPECIALTIES LIST

Instructions: The following field listing is to be used in responding to items 13, 22A, and 23C. If a field marked with an asterisk (*) is chosen in item 13, please write in your field of specialization in the space provided.

AGRICULTURE

000 Agricultural Economics
002 Agricultural Business & Mgmt.
005 Animal Breeding & Genetics
010 Animal Nutrition
012 Dairy Science
014 Poultry Science
055 Fisheries Sciences
019 Animal Sciences, Other*
020 Agronomy
025 Plant Breeding & Genetics
030 Plant Path. (See also 120)
039 Plant Sciences, Other*
042 Food Distribution
043 Food Engineering
044 Food Sciences, Other*
046 Soil Chemistry/Microbiology
049 Soil Sciences, Other*
050 Horticulture Science
066 Forest Biology
068 Forest Engineering
070 Forest Management
072 Wood Science
074 Renewable Natural Resources
079 Forestry & Related Sci., Other*
080 Wildlife/Range Management
098 Agriculture, General
099 Agricultural Sciences, Other*

BIOLOGICAL SCIENCES

100 Biochemistry
105 Biophysics
110 Bacteriology
115 Plant Genetics
120 Plant Path. (See also 030)
125 Plant Physiology
129 Botany, Other*
130 Anatomy
133 Biometrics & Biostatistics
136 Cell Biology (See also 154)
139 Ecology
142 Developmental Bio./Embry.
145 Endocrinology
148 Entomology
151 Immunology
154 Molecular Biology
157 Microbiology
160 Neurosciences
163 Nutritional Sciences
166 Parasitology
169 Toxicology
170 Genetics, Human & Animal
175 Pathology, Human & Animal (See also 120)
180 Pharmacology, Hum. & Anim.
185 Physiology, Human & Animal
189 Zoology, Other*
198 Biological Sciences, General
199 Biological Sciences, Other*

HEALTH SCIENCES

200 Audiology & Speech Path.
210 Environmental Health
215 Public Health (See also 133)
220 Epidemiology
230 Nursing
240 Pharmacy
245 Rehabilitation/Therapeutic Services
250 Veterinary Medicine
298 Health Sciences, General
299 Health Sciences, Other*

ENGINEERING

300 Aerospace, Aeronautical & Astronautical
303 Agricultural
306 Bioengineering & Biomedical
309 Ceramic
312 Chemical
315 Civil
318 Communications
321 Computer
324 Electrical, Electronics
327 Engineering Mechanics
330 Engineering Physics
333 Engineering Science
336 Environmental Health Engin.
339 Industrial
342 Materials Science
345 Mechanical
348 Metallurgical
351 Mining & Mineral
357 Nuclear
360 Ocean
363 Operations Research (See also 465, 930)
366 Petroleum
369 Polymer
372 Systems
398 Engineering, General
399 Engineering, Other*

COMPUTER AND INFORMATION SCIENCES

400 Computer Sciences
410 Information Sci. & Systems*

MATHEMATICS

420 Applied Mathematics
425 Algebra
430 Analysis & Functional Analysis
435 Geometry
440 Logic (See also 785)
445 Number Theory
450 Math Probability & Statistics
455 Topology
460 Computing Theory & Practice
465 Operations Research (See also 363, 930)
498 Mathematics, General
499 Mathematics, Other*

PHYSICAL SCIENCES

Astronomy

500 Astronomy
505 Astrophysics

Atmospheric and Meteorological Sciences

510 Atmospheric Physics & Chem.
512 Atmospheric Dynamics
514 Meteorology
518 Atmos. & Meteor. Sci., Gen.
519 Atmos. & Meteor. Sci., Other*

Chemistry

520 Analytical
522 Inorganic
524 Nuclear
526 Organic
528 Pharmaceutical
530 Physical
532 Polymer
534 Theoretical
538 Chemistry, General
539 Chemistry, Other* (See 100 Biochemistry)

Geological Sciences

540 Geology
542 Geochemistry
544 Geophysics & Seismology
546 Paleontology
548 Mineralogy, Petrology
550 Stratigraphy, Sedimentation
552 Geomorphology & Glacial Geol.
558 Geological Sciences, General
559 Geological Sciences, Other*

Physics

560 Acoustics
561 Atomic & Molecular
564 Elementary Particle
566 Fluids
568 Nuclear
569 Optics
570 Plasma
572 Polymer
574 Solid State
578 Physics, General
579 Physics, Other*

Other Physical Sciences

580 Environmental Sciences
585 Hydrology & Water Resources
590 Oceanography
595 Marine Sciences
599 Physical Sciences, Other*

PSYCHOLOGY

600 Clinical
603 Cognitive
606 Comparative
609 Counseling
612 Developmental
615 Experimental
618 Educational (See also 822)
621 Industrial & Organizational (See also 935)
624 Personality
627 Physiological
630 Psychometrics
633 Quantitative
636 School (See also 825)
639 Social
648 Psychology, General
649 Psychology, Other*

SOCIAL SCIENCES

650 Anthropology
652 Area Studies
658 Criminology
662 Demography
666 Economics
668 Econometrics
670 Geography
674 International Relations
678 Political Sci. & Government
682 Public Policy Studies
686 Sociology
690 Statistics (See also 450)
694 Urban Studies
698 Social Sciences, General
699 Social Sciences, Other*

HUMANITIES

History

700 History, American
705 History, European
710 History of Science
718 History, General
719 History, Other*

Letters

720 Classics
723 Comparative Literature
729 Linguistics
732 Literature, American
733 Literature, English
734 English Language
736 Speech, Debate & Rhetoric
738 Letters, General
739 Letters, Other*

Foreign Languages and Literature

740 French
743 German
746 Italian
749 Spanish
752 Russian
755 Slavic (other than Russian)
758 Chinese
762 Japanese
765 Hebrew
768 Arabic
769 Other Languages*

Other Humanities

770 American Studies
773 Archeology
776 Art History & Criticism
780 Music
785 Philosophy (See also 440)
790 Religion (See also 984)
795 Theatre
798 Humanities, General
799 Humanities, Other*

EDUCATION

800 Curriculum & Instruction
805 Educational Admin. & Supervision
807 Educational Leadership
810 Educational Media
815 Educational Stat. & Research
820 Educational Testing, Eval. & Meas.
822 Educational Psychology (See also 618)
825 School Psychology (See also 636)
830 Social Foundations
835 Special Education
840 Student Counseling & Personnel Services
845 Higher Education Research

Teacher Education

850 Pre-elementary
852 Elementary
856 Secondary
858 Adult & Continuing

Teaching Fields

860 Agricultural Education
861 Art Education
862 Business Education
864 English Education
866 Foreign Languages Education
868 Health Education
870 Home Economics Education
872 Industrial Arts Education
874 Mathematics Education
876 Music Education
878 Nursing Education
880 Physical Education
882 Reading Education
884 Science Education
885 Social Science Education
887 Technical Education
888 Trade & Industrial Education
889 Teacher & Educ. Specific Subject Areas, Other*
898 Education, General
899 Education, Other*

PROFESSIONAL FIELDS

Business and Management

900 Accounting
905 Banking & Finance
910 Business Admin. & Mgmt.
915 Business Economics
917 Mgmt. Info. Systems
920 Marketing Mgmt. & Research
930 Operations Research (See also 363, 465)
935 Organiz. Beh. (See also 621)
938 Business & Mgmt., General
939 Business & Mgmt., Other*

Communications

940 Communications Research
947 Mass Communications
957 Communication Theory
958 Communications, General
959 Communications, Other* (See also 736)

Other Professional Fields

960 Architec. & Environ. Design
964 Home Economics
968 Law
972 Library & Archival Science
976 Public Administration
980 Social Work
984 Theology (See also 790)
988 Professional Fields, General
989 Professional Fields, Other*

999 OTHER FIELDS*

Form Approved
OMB No. 3145-0019
Approval Expires
6/91

SURVEY OF EARNED DOCTORATES 1990-91

This form is to be returned to the GRADUATE DEAN, for forwarding to .... The Office of Scientific and Engineering Personnel
National Research Council
2101 Constitution Avenue, Washington, D.C. 20418

Please print or type.

1. Name in full: ____________________
Last Name *First Name* *Middle Name*

Cross Reference: Maiden name or former name legally changed ____________________

2. Permanent address through which you could always be reached: (Care of, if applicable) ____________________

____
Number *Street* *City*

____
State *Zip Code* *Or Country if not U.S.*

3. U.S. Social Security Number: ___ ___ ___ - ___ ___ - ___ ___ ___ ___

4. Date of birth: ____________________ Place of birth: ____________________
Month *Day* *Year* *State* *or Country if not U.S.*

5. Sex: 1 ☐ Male
2 ☐ Female

6. Marital status: 0 ☐ Single, never married
1 ☐ Married
2 ☐ Separated, divorced, widowed

7. Citizenship:
0 ☐ United States, native
1 ☐ United States, naturalized
Non-United States:
2 ☐ Permanent Resident of United States (Immigrant visa)
↳ ____________________
(Country of present citizenship)
3 ☐ Temporary Resident of United States (Non-immigrant visa)
↳ ____________________
(Country of present citizenship)

8. Physical disabilities: 0 ☐ None
1 ☐ No useful sight
2 ☐ No useful hearing
3 ☐ No use of arms and/or legs
5 ☐ Other (specify) ____________________

9. What is your racial background? (Check only one)
0 ☐ American Indian or Alaskan Native
1 ☐ Asian or Pacific Islander
2 ☐ Black
3 ☐ White

10. Are you Hispanic? ☐ No ☐ Yes → 0 ☐ Mexican American
1 ☐ Puerto Rican
2 ☐ Other Hispanic

11. How many dependents do you have? ______ Do not include yourself.
(Dependent = someone receiving at least one half of his or her support from you.)

EDUCATION

12. Location of high school last attended: ____________________ Year of graduation from high school: ______
State *or Country if not U.S.*

13. List in the table below, chronologically, all colleges (including 2-year colleges) or universities you have attended and each degree earned. Include your doctoral degree as the last entry. List dates attended for each degree earned.

		Years Attended		Field of Study		Degree		
				Use Specialties List			Granted	
Institution/Branch	State/Country	From	To	Name	Number	Title	Mo	Yr

If a baccalaureate degree (or equivalent) was never received, please check box. ☐

14. How many years were you a full-time student between receiving your first baccalaureate degree (or equivalent) and receiving your doctorate (include the period spent on your thesis and/or dissertation). __________ (whole numbers)

15. Identify the field of your doctorate and enter below the title of your dissertation. If a project report or a musical or literary composition is a degree requirement in lieu of a dissertation, please check box ☐ Name of field ____________________

Title ____________________

16. Name the department (or interdisciplinary committee, center, institute, etc.) and school or college of the university which supervised your doctoral program.

____
Department/Institute/Committee/Program *School*

NSF Form 558 June 1991

(continued on next page)

17. Please indicate your **primary** and **secondary** sources of support during graduate study by entering "1" or "2" in the appropriate box. Check (✓) all other sources from which support was received. (Enter only one source as "1" and one source as "2.")

Own/Family Resources
01 ☐ Own Earnings
02 ☐ Spouse's Earnings
03 ☐ Family Contributions

Student Loans
80 ☐ Guaranteed Student Loan (Stafford Loan)
81 ☐ Perkins Loan (includes former National Direct Student Loan)
89 ☐ Other Loan
____
Specify

University-Related
10 ☐ Teaching Assistant
11 ☐ Research Assistant
12 ☐ University Fellow
14 ☐ College Work-Study
19 ☐ Other
____
Specify

Federal Research Assistant
22 ☐ NIH
32 ☐ NSF
52 ☐ USDA
62 ☐ Other Federal
____
Specify

Other Federal Support
21 ☐ NIH Traineeship/Fellowship
29 ☐ Other HHS
33 ☐ NSF Fellowship
40 ☐ Patricia Roberts-Harris Fellowship — Dept. of Ed. (includes former G*POP)
44 ☐ Title VI Foreign Language
49 ☐ Other Dept. Education
60 ☐ Veterans Administration
53 ☐ USDA Fellowship
69 ☐ Other Federal
____
Specify

U.S. Nationally Competitive Fellowships (Non-Federal)
70 ☐ Ford Foundation
71 ☐ Rockefeller Foundation
73 ☐ Mellon Foundation
78 ☐ Other Fellowship
____
Specify

Other Sources
90 ☐ Business/Employer
91 ☐ Foreign (Non-U.S.) Government
92 ☐ State Government
99 ☐ Other

18. When you receive your doctorate degree, how much money will you owe that is directly related to your undergraduate and/or graduate education (tuition and fees, living expenses and supplies, transportation to and from school)?

0 ☐ None
1 ☐ $5,000 or less
2 ☐ $5,001-$10,000
3 ☐ $10,001-$15,000
4 ☐ $15,001 or more

19A. Please check the category that most fully describes your status during the year immediately preceding the award of the doctorate.

0 ☐ Full-time employed → Go to item 19B →
1 ☐ Held fellowship
2 ☐ Held assistantship
3 ☐ Part-time employed
4 ☐ Not employed
5 ☐ Other (specify) ________________

B. If full-time employed, what type of position did you hold?

6 ☐ College or university, faculty
7 ☐ College or university, non-faculty
8 ☐ Elementary or secondary school, teaching
9 ☐ Elementary or secondary school, non-teaching
(11) ☐ Industry or business
(12) ☐ Other (specify) ________________

POSTGRADUATION PLANS

20. How definite are your immediate postgraduate plans?

0 ☐ Am returning to, or continuing in, predoctoral employment
1 ☐ Have signed contract or made definite commitment
2 ☐ Am negotiating with one or more specific organizations
3 ☐ Am seeking position but have no specific prospects
4 ☐ Other (specify) ________________

21. What best describes your immediate postgraduate plans?

0 ☐ Postdoctoral fellowship
1 ☐ Postdoctoral research associateship
2 ☐ Traineeship
3 ☐ Other study (specify) ________________
} Go to Item 22

4 ☐ Employment (other than 0, 1, 2, 3)
5 ☐ Military service
6 ☐ Other (specify) ________________
} Go to Item 23

22. If you plan to have a postdoctoral fellowship, associateship, traineeship, or otherwise undertake further study,

A. What will be the field of your postdoctoral study? Please enter number from **Specialties List.** ________________

B. What will be the main source of financial support for your research?

0 ☐ U.S. Government
1 ☐ College or university
2 ☐ Private foundation
3 ☐ Nonprofit, other than private foundation
4 ☐ Other (specify) ________________
6 ☐ Unknown

Go to Item 24

23A. For what type of employer will you be working?

Education
a ☐ U.S. 4-yr college or university other than medical school
b ☐ U.S. medical school
c ☐ U.S. jr. or community college
d ☐ Elementary or secondary school
e ☐ Foreign institution

Government
f ☐ Foreign government
g ☐ U.S. federal government
h ☐ U.S. state government
i ☐ U.S. local government

Private Sector
j ☐ Nonprofit organization
k ☐ Industry or business
l ☐ Self-employed

Other
m ☐ Other (specify) ________________

B. Indicate what your **primary** and **secondary** work activities will be by entering "1" or "2" in the appropriate box.

0 ☐ Research and development
1 ☐ Teaching
2 ☐ Administration
3 ☐ Professional services to individuals
5 ☐ Other

C. In what field will you be working? Please enter number from **Specialties List** ________________

Go to Item 24

24. Where do you intend to work/study/live after graduation? 0 ☐ in U.S. ________________ *State* 1 ☐ not in U.S. ________________ *Country*

________________ *Name of Organization, if known* ________________ *City of Organization, if known*

25. What is the highest educational attainment of your mother and father? Please circle.

Father:	Less than high school	High school graduate	Some college	Bachelor's	Master's	Professional	Doctorate
Mother:	Less than high school	High school graduate	Some college	Bachelor's	Master's	Professional	Doctorate
Codes for office use	1	2	3	4	5	6	7

Signature ________________ Date ________________

If you would like a summary of the results of this survey, please check box. ☐

SECTION C. DETAILED STATISTICAL TABLES

Page

1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69 19

2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69 41

3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group and subfield of recipients: 1976-91 81

4. Science and engineering (S&E) doctorates awarded, by sex, major field, and median age of recipients: 1970-91, and totals for 1960-64 and 1965-69 151

5. Median lapsed years between receipt of baccalaureate and science and engineering (S&E) doctoral degree, by sex and major field of recipients: 1970-91, and totals for 1960-64 and 1965-69 153

6. Non-U.S. citizens awarded science and engineering (S&E) doctorates, by major field and country of citizenship of recipients: 1980-91, and totals for 1960-64, 1965-69, 1970-74, and 1975-79 155

7. Field-switching between baccalaureate and doctoral degrees, by major field: selected years 167

8. Science and engineering (S&E) doctorates awarded, by sex and major field of recipients and State of degree-granting institution: 1991 169

9. Top 100 institutions conferring science and engineering (S&E) doctorates, by sex of recipients: 1981-91 173

Page

10. Institutions conferring science and engineering (S&E) doctorates, by sex and major field: 1991 179

11. Baccalaureate-origin institutions of 10 or more science and engineering (S&E) doctorate recipients, by major field: 1986-91 191

12. Science and engineering (S&E) doctorates awarded, by State of high school last attended by recipients and State of doctorate-granting institution: 1991 203

13. Science and engineering (S&E) doctorates awarded, by postgraduate location of definite employment or study commitment, citizenship status, and major field of recipients: selected years 207

14. Science and engineering (S&E) doctorates awarded, by sex, major field, and type of employer for recipients with a definite employment commitment in the United States: 1970-91, and totals for 1960-64 and 1965-69 211

15. Science and engineering (S&E) doctorates awarded, by citizenship status, major field, and postgraduation plans of recipients: selected years 223

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69

Sex and Subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate 1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
TOTAL, MALE AND FEMALE														
TOTAL, S&E	38,229	66,120	104,349	18,044	19,363	19,324	19,352	18,694	18,710	18,268	17,723	17,383	17,589	184,450
TOTAL, SCIENCES	32,258	52,998	85,256	14,598	15,849	15,815	15,978	15,533	15,699	15,430	15,075	14,958	15,095	154,030
PHYSICAL SCIENCES	9,525	14,897	24,422	3,893	3,949	3,653	3,444	3,136	3,076	2,861	2,721	2,611	2,674	32,018
Physics/astronomy	3,520	6,316	9,836	1,655	1,738	1,634	1,589	1,339	1,300	1,237	1,150	1,067	1,108	13,817
Acoustics	47	47	94	23	19	20	15	13	12	9	12	14	13	150
Astronomy(1)	-	36	36	48	59	63	64	57	60	78	63	64	58	614
Astronomy/astrophysics(1)	134	301	435	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	-	67	67	63	54	66	67	76	71	72	57	74	57	657
Atomic/molecular	402	627	1,029	152	124	150	122	122	140	116	105	88	72	1,191
Electron(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electromagnetism(3)	106	126	232	18	18	11	13	8	10	12	9	10	6	115
Elementary particle	535	1,026	1,561	256	277	198	222	146	126	130	138	135	121	1,749
Fluids	89	188	277	21	21	28	28	20	22	20	14	13	14	201
Mechanics(4)	23	40	63	7	6	7	6	4	3	4	-	-	-	37
Nuclear(5)	686	900	1,586	212	226	234	182	145	130	96	94	77	103	1,499
Optics	37	66	103	30	25	31	33	24	33	50	31	33	46	336
Plasma	-	63	63	85	86	93	73	57	53	75	72	68	62	724
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid state	807	1,723	2,530	403	442	393	400	349	321	282	258	243	243	3,334
Theoretical physics(7)	260	-	260	-	-	-	-	-	-	-	-	-	-	-
Thermal(8)	31	92	123	17	17	18	16	16	9	4	7	11	7	122
Physics, general	136	462	598	160	164	154	206	180	173	175	173	151	194	1,730
Physics, other	227	552	779	160	200	168	142	122	137	114	117	86	112	1,358
Chemistry	6,005	8,581	14,586	2,238	2,211	2,019	1,855	1,797	1,776	1,624	1,571	1,544	1,566	18,201
Agricultural/food	188	240	428	62	58	22	9	13	8	14	6	8	11	211
Analytical	420	623	1,043	160	174	147	128	147	142	152	174	178	207	1,609
Inorganic	561	1,014	1,575	303	297	289	262	201	229	226	198	201	195	2,401
Nuclear	135	137	272	34	36	22	24	31	21	25	24	13	14	244
Organic	2,496	3,490	5,986	843	810	714	645	615	605	497	479	454	469	6,131
Pharmaceutical	203	267	470	58	66	48	50	65	66	55	50	51	43	552
Physical	1,716	2,264	3,980	558	502	472	457	389	393	355	339	310	326	4,101
Polymer	-	-	-	-	-	-	14	35	40	42	55	57	67	310
Theoretical	102	192	294	64	65	67	53	51	46	48	38	46	50	528
Chemistry, general	107	198	305	87	102	133	140	197	169	144	146	161	126	1,405
Chemistry, other	77	156	233	69	101	105	73	53	57	66	62	65	58	709
EARTH, ATMOS, OCEAN SCI	1,380	2,123	3,503	498	536	598	624	615	625	641	689	621	642	6,089
Applied geo, geo eng(9)	110	123	233	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	-	27	27	17	27	41	22	31	22	23	20	15	19	237
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atmos/meteorol sci, other	-	-	-	-	-	-	-	-	-	23	46	34	42	145
Atmospheric dynamics	-	-	-	-	-	-	-	-	-	14	32	21	26	93
Atmospheric phys/chem	-	-	-	-	-	-	-	-	-	16	15	22	16	69
Environmental sciences(10)	-	-	-	-	-	22	55	53	77	61	54	45	53	420
Geochemistry(11)	-	41	41	40	53	37	42	46	49	49	57	51	57	481
Geology(12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Structural geology(12)	64	130	194	12	28	24	21	15	16	22	22	28	28	216
Geomorph/glacial geology	47	68	115	17	23	19	27	23	30	29	22	24	14	228
Geophysics/seismology(13)	-	-	-	-	-	-	-	-	-	40	73	60	81	254
Geophysics(13)	126	190	316	67	66	78	67	80	92	33	-	-	-	483
Hydrology/water res(14)	14	51	65	20	28	13	30	17	18	15	23	31	20	215
Marine sciences(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marine sciences, other(15)	-	-	-	-	-	-	-	-	-	-	9	28	31	68
Meteorology(16)	107	203	310	55	59	78	58	57	45	23	-	-	-	375
Mineral, petrol, geochem(11)	376	379	755	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	-	50	50	57	48	61	47	41	43	48	60	34	33	472
Oceanography	61	207	268	66	53	78	88	81	86	89	113	98	91	843
Paleontology	132	207	339	40	32	35	44	41	41	43	26	31	36	369
Stratigraphy, sediment	296	276	572	56	67	51	55	48	43	57	42	32	34	485
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earth sciences, general(17)	27	94	121	29	27	29	41	55	32	33	44	45	37	372
Earth sciences, other(17)	20	77	97	22	25	32	27	27	31	23	31	22	24	264
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MATHEMATICS	2,082	4,325	6,407	1,225	1,238	1,281	1,232	1,211	1,147	1,003	933	838	769	10,877
Algebra	270	679	949	191	200	167	142	125	126	116	88	87	88	1,330
Analysis/funct analysis(18)	556	1,060	1,616	244	261	241	244	208	180	141	153	118	111	1,901
Applied mathematics	258	573	831	147	122	119	119	136	101	105	113	108	111	1,181
Computing theory	48	207	255	119	140	163	225	203	166	148	101	55	25	1,345
Geometry	86	129	215	40	35	35	32	38	26	23	26	22	25	302
Logic	53	130	183	36	32	39	33	19	38	34	17	24	21	293
Math probability/stat(19)	367	527	894	85	97	151	157	148	174	165	159	168	165	1,469
Number theory	83	98	181	27	33	36	31	23	27	26	32	18	17	270
Operations research	-	-	-	-	-	-	3	24	55	36	42	43	43	246
Topology	259	531	790	143	121	130	111	117	94	72	70	56	61	975
Mathematics, general	61	215	276	95	108	112	94	122	114	94	88	92	80	999
Mathematics, other	41	176	217	98	89	88	41	48	46	43	44	47	22	566
COMPUTER & INFO SCI	-	-	-	-	-	-	1	-	-	-	31	121	210	363
Computer sciences	-	-	-	-	-	-	1	-	-	-	31	121	210	363
Information sci/systems(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

	Year of doctorate												
Sex and Subfield	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
TOTAL, MALE AND FEMALE													
TOTAL, S&E	17,523	17,996	18,017	18,393	18,514	18,712	19,251	19,706	20,739	21,530	190,381	22,677	23,748
TOTAL, SCIENCES	15,044	15,468	15,371	15,612	15,601	15,546	15,875	15,994	16,551	16,986	158,048	17,784	18,536
PHYSICAL SCIENCES	2,521	2,627	2,694	2,802	2,845	2,916	3,090	3,212	3,317	3,244	29,268	3,492	3,602
Physics/astronomy	983	1,015	1,014	1,043	1,080	1,080	1,187	1,237	1,302	1,274	11,215	1,392	1,408
Acoustics	23	13	11	14	21	10	15	17	16	15	155	21	12
Astronomy(1)	52	50	52	50	42	43	52	46	66	49	502	52	50
Astronomy/astrophysics(1)	-	-	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	69	59	50	65	56	57	57	54	64	64	595	76	75
Atomic/molecular	69	66	96	71	77	58	70	79	77	74	737	87	76
Electron(2)	-	-	-	1	2	4	2	6	2	4	21	2	1
Electromagnetism(3)	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	117	119	119	136	138	154	147	159	174	135	1,398	163	182
Fluids	15	14	13	15	11	16	6	21	17	14	142	17	14
Mechanics(4)	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(5)	73	63	53	90	72	86	89	74	88	81	769	73	66
Optics	43	54	42	50	53	51	58	50	65	78	544	76	84
Plasma	59	65	69	72	73	55	61	72	65	61	652	42	58
Polymer(6)	-	-	-	10	8	11	11	15	20	7	82	11	17
Solid state	201	253	235	222	258	248	280	287	252	296	2,532	306	371
Theoretical physics(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
Thermal(8)	5	7	-	-	-	-	-	-	-	-	12	-	-
Physics, general	165	164	167	150	170	176	222	238	271	269	1,992	323	247
Physics, other	92	88	107	97	99	111	117	119	125	127	1,082	143	155
Chemistry	1,538	1,612	1,680	1,759	1,765	1,836	1,903	1,975	2,015	1,970	18,053	2,100	2,194
Agricultural/food	-	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	185	229	190	264	228	285	257	314	301	289	2,542	293	303
Inorganic	189	188	226	215	233	251	260	240	250	256	2,308	242	259
Nuclear	14	12	20	13	18	7	18	13	7	6	128	13	14
Organic	484	494	519	503	525	494	511	511	531	511	5,083	452	537
Pharmaceutical	52	52	55	78	56	60	58	65	73	64	613	48	82
Physical	282	275	324	311	329	304	293	302	318	310	3,048	325	363
Polymer	61	62	50	62	63	84	72	96	81	78	709	81	111
Theoretical	47	33	32	48	37	48	41	46	50	46	428	55	45
Chemistry, general	157	193	175	177	183	213	289	297	310	312	2,306	524	407
Chemistry, other	67	74	89	88	93	90	104	91	94	98	888	67	73
EARTH, ATMOS, OCEAN SCI	628	583	657	637	614	617	589	628	728	740	6,421	769	837
Applied geo, geo eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	27	21	25	8	7	8	4	5	7	6	118	6	1
Atmos/meteorol sci, gen(6)	-	-	-	16	5	10	7	16	14	14	82	23	26
Atmos/meteorol sci, other	51	33	26	27	12	10	7	13	10	15	204	2	10
Atmospheric dynamics	20	27	22	16	25	21	16	17	25	16	205	20	21
Atmospheric phys/chem	19	15	17	21	11	16	21	24	19	15	178	18	20
Environmental sciences(10)	40	54	53	50	45	42	35	29	58	68	474	50	35
Geochemistry(11)	51	48	51	48	43	48	37	31	46	39	442	56	63
Geology(12)	-	-	-	105	124	111	118	114	144	165	881	166	191
Structural geology(12)	20	27	25	-	-	-	-	-	-	-	72	-	-
Geomorph/glacial geology	15	13	21	10	9	13	11	18	9	10	129	14	18
Geophysics/seismology(13)	71	72	81	75	68	92	89	75	83	87	793	91	113
Geophysics(13)	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	27	21	24	20	18	17	16	18	24	24	209	13	16
Marine sciences(6)	-	-	-	22	21	24	22	38	28	26	181	39	27
Marine sciences, other(15)	25	30	41	-	-	-	-	-	-	-	96	-	-
Meteorology(16)	-	-	-	17	28	23	27	17	35	27	174	20	31
Mineral, petrol, geochem(11)	-	-	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	47	30	41	24	28	28	17	24	19	36	294	26	36
Oceanography	85	70	92	87	78	68	78	73	81	87	799	89	85
Paleontology	21	19	24	17	35	23	16	21	24	17	217	21	24
Stratigraphy, sediment	40	42	47	25	16	23	14	22	30	24	283	25	29
Geological sciences, gen(17)	-	-	-	15	10	11	12	18	8	19	93	31	34
Geological sciences, oth(17)	-	-	-	21	25	11	12	29	31	28	157	28	36
Earth sciences, general(17)	48	45	38	-	-	-	-	-	-	-	131	-	-
Earth sciences, other(17)	21	16	29	-	-	-	-	-	-	-	66	-	-
Physical sciences, other(6)	-	-	-	13	6	18	30	26	33	17	143	31	21
MATHEMATICS	744	728	720	701	698	688	729	740	749	859	7,356	892	1,040
Algebra	78	56	60	55	65	55	46	57	54	50	576	39	72
Analysis/funct analysis(18)	91	105	98	76	71	83	81	86	76	103	870	90	132
Applied mathematics	102	118	108	125	108	116	135	131	142	158	1,243	185	192
Computing theory	13	16	11	12	13	15	10	14	12	12	128	12	19
Geometry	35	29	32	44	27	35	38	30	44	47	361	42	66
Logic	24	18	17	21	25	30	23	18	20	12	208	19	23
Math probability/stat(19)	151	163	165	151	181	150	141	143	152	167	1,564	157	206
Number theory	28	24	28	19	27	18	20	15	26	23	228	26	30
Operations research	41	36	36	20	27	22	29	22	29	22	284	29	16
Topology	57	55	45	44	42	35	34	41	27	37	417	50	57
Mathematics, general	83	77	84	86	78	85	125	137	134	177	1,066	191	182
Mathematics, other	41	31	36	48	34	44	47	46	33	51	411	52	45
COMPUTER & INFO SCI	218	232	220	286	295	310	399	450	515	612	3,537	705	797
Computer sciences	218	232	220	264	256	249	355	384	442	519	3,139	612	719
Information sci/systems(6)	-	-	-	22	39	61	44	66	73	93	398	93	78

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Sex and Subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
	Year of doctorate													
TOTAL, MALE AND FEMALE														
AGRIC & BIOL SCI	9,404	15,542	24,946	4,165	4,557	4,454	4,503	4,304	4,402	4,361	4,266	4,369	4,501	43,882
Agricultural sciences	2,305	3,165	5,470	804	903	854	855	820	905	788	782	853	855	8,419
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agronomy	712	854	1,566	198	191	142	153	132	134	146	123	137	138	1,494
Animal breeding/genetics(21)	574	650	1,224	124	94	68	35	17	21	17	25	21	26	448
Animal nutrition(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sci/nutrition(22)	-	1	1	-	-	68	113	136	130	119	101	101	112	880
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sciences, other(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish/wildlife(23)	98	128	226	47	61	49	48	54	63	55	66	61	66	570
Fisheries science(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife management(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences(24)	-	39	39	37	77	81	92	101	111	91	107	117	107	921
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry science(25)	164	302	466	75	84	74	79	74	86	79	66	88	87	792
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest engineering(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horticulture science	249	340	589	69	75	85	50	44	77	51	60	65	69	645
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phytopathology(26)	389	482	871	106	109	93	102	91	100	83	82	89	88	943
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences(28)	-	40	40	41	57	85	102	90	97	69	72	97	71	781
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agriculture, general	9	36	45	4	2	5	4	5	8	9	6	6	7	56
Agriculture, other	110	293	403	103	153	104	77	76	78	69	74	71	84	889
Biological sciences	7,099	12,377	19,476	3,361	3,654	3,600	3,648	3,484	3,497	3,573	3,484	3,516	3,646	35,463
Anatomy	233	446	679	124	154	159	127	122	119	133	116	144	151	1,349
Biochemistry	1,491	2,485	3,976	583	658	585	635	599	620	617	609	607	603	6,116
Biometrics/biostat	64	113	177	38	43	30	35	36	37	46	52	45	44	406
Biophysics	157	445	602	106	102	114	115	122	112	123	141	110	133	1,178
Botany, other(29)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Botany(29)	573	811	1,384	177	202	195	210	177	155	182	158	148	141	1,745
Cell biology(30)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cytology(30)	66	178	244	56	55	36	39	40	41	46	37	33	39	422
Devel bio/embryology(31)	48	169	217	41	37	35	29	22	27	13	19	15	14	252
Ecology	184	293	477	112	118	134	134	149	142	140	163	170	173	1,435
Endocrinology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Entomology	483	740	1,223	178	218	195	184	175	170	145	153	146	162	1,726
Human/animal genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Genetics(32)	422	638	1,060	150	153	160	128	126	156	143	141	126	141	1,424
Human/animal pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pathology(33)	108	216	324	40	69	89	79	81	67	94	99	90	85	793
Human/animal pharmacol	337	621	958	150	175	188	160	176	166	205	196	216	220	1,852
Human/animal physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal physiology(34)	399	1,229	1,628	345	361	343	357	313	332	285	321	315	314	3,286
Animal/plant physiol(34)	307	-	307	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	158	396	554	96	90	75	92	77	67	62	43	43	57	702
Hydrobiology	34	61	95	28	27	24	11	17	8	13	14	3	10	155
Immunology	-	-	-	-	-	18	50	69	71	93	101	94	134	630
Microbiology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bacteriology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Microbiology/bacteriol(35)	963	1,638	2,601	399	408	397	382	382	363	362	312	349	349	3,703
Molecular biology	-	91	91	95	109	155	119	140	156	148	131	172	140	1,365
Neurosciences	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutritional sciences(36)	27	-	27	-	-	-	-	-	-	85	82	90	107	364
Parasitology	-	-	-	-	-	-	19	26	18	19	17	13	21	133
Toxicology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology, other(37)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology(37)	922	1,320	2,242	341	355	356	331	260	271	258	254	231	249	2,906
Biological sci, general	36	194	230	121	164	137	194	191	185	190	178	191	187	1,738
Biological sci, other	87	293	380	181	156	175	218	184	214	171	147	165	172	1,783

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

	Year of doctorate												
Sex and Subfield	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
TOTAL, MALE AND FEMALE													
AGRIC & BIOL SCI	4,715	4,786	4,844	4,756	4,877	4,904	4,805	4,815	5,127	5,203	48,832	5,507	5,714
Agricultural sciences	912	982	951	1,015	997	1,111	998	976	1,015	1,088	10,045	1,176	1,072
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	2	2	2	1
Agronomy	151	177	159	149	137	158	159	143	141	140	1,514	143	117
Animal breeding/genetics(21)	25	19	22	25	28	28	25	23	27	23	245	22	18
Animal nutrition(22)	-	-	-	56	71	78	65	82	54	67	473	54	57
Animal sci/nutrition(22)	119	149	133	-	-	-	-	-	-	-	401	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	12	16	28	20	19
Poultry science(22)	-	-	-	-	-	-	-	-	10	11	21	17	13
Animal sciences, other(22)	-	-	-	92	90	95	91	76	86	95	625	90	91
Fish/wildlife(23)	73	66	65	-	-	-	-	-	-	-	204	-	-
Fisheries science(23)	-	-	-	36	45	36	32	32	42	34	257	42	39
Wildlife management(23)	-	-	-	31	31	38	20	23	3	-	146	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	36	52	88	58	59
Food sciences(24)	102	104	110	141	113	136	121	131	16	1	975	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	6	11	17	10	12
Food sciences, other(24)	-	-	-	-	-	-	-	-	119	147	266	141	137
Forestry science(25)	80	95	78	90	94	105	88	100	15	-	745	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	21	22	43	27	17
Forest engineering(25)	-	-	-	-	-	-	-	-	3	1	4	2	2
Forest management(25)	-	-	-	-	-	-	-	-	18	21	39	14	22
Wood science(25)	-	-	-	-	-	-	-	-	7	16	23	16	16
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	7	12	19	16	19
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	35	57	92	62	45
Horticulture science	73	85	88	72	66	76	60	71	61	75	727	101	78
Plant breeding/genetics(26)	-	-	-	71	78	88	78	70	83	64	532	87	69
Plant pathology(26)	-	-	-	92	57	89	85	76	46	63	508	64	90
Phytopathology(26)	118	99	114	-	-	-	-	-	-	-	331	-	-
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	1	6	7	4	2
Plant sciences, other(26)	-	-	-	16	20	21	22	20	23	15	137	23	17
Soil sciences(28)	79	90	83	85	99	97	103	74	18	-	728	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	33	28	61	27	24
Soil sciences, other(28)	-	-	-	-	-	-	-	-	62	75	137	91	78
Agriculture, general	3	5	5	7	1	5	4	5	9	7	51	5	3
Agriculture, other	89	93	94	52	67	61	45	50	21	27	599	38	27
Biological sciences	3,803	3,804	3,893	3,741	3,880	3,793	3,807	3,839	4,112	4,115	38,787	4,331	4,642
Anatomy	147	156	163	107	103	135	86	92	88	80	1,157	70	77
Biochemistry	673	645	649	647	606	581	576	573	613	669	6,232	678	762
Biometrics/biostat	42	48	59	45	49	40	30	37	47	46	443	47	59
Biophysics	108	99	91	88	90	69	72	86	97	87	887	103	99
Botany, other(29)	-	-	-	116	126	120	121	106	112	117	818	104	105
Botany(29)	144	147	146	-	-	-	-	-	-	-	437	-	-
Cell biology(30)	-	-	-	118	123	100	130	127	118	133	849	145	150
Cytology(30)	44	47	41	-	-	-	-	-	-	-	132	-	-
Devel bio/embryology(31)	18	20	10	13	15	15	9	6	7	10	123	22	37
Ecology	169	198	173	183	202	200	183	158	155	161	1,782	166	190
Endocrinology(6)	-	-	-	28	30	17	17	19	21	21	153	24	33
Entomology	161	143	170	141	156	173	170	123	133	139	1,509	147	138
Human/animal genetics(32)	-	-	-	95	82	105	91	113	118	112	716	153	160
Plant genetics(32)	-	-	-	19	20	31	20	26	26	18	160	31	23
Genetics(32)	157	157	176	-	-	-	-	-	-	-	490	-	-
Human/animal pathology(33)	-	-	-	97	88	110	91	127	112	105	730	101	120
Plant pathology(33)	-	-	-	29	30	38	28	33	30	22	210	37	50
Pathology(33)	108	106	97	-	-	-	-	-	-	-	311	-	-
Human/animal pharmacol	257	280	280	218	237	235	245	234	252	241	2,479	243	262
Human/animal physiol(34)	-	-	-	246	237	245	240	248	225	272	1,713	278	272
Animal physiology(34)	340	327	309	-	-	-	-	-	-	-	976	-	-
Animal/plant physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	52	68	56	67	70	58	52	62	74	47	606	51	65
Hydrobiology	-	-	-	-	-	-	-	-	-	-	-	-	-
Immunology	125	148	151	154	133	124	146	136	179	152	1,448	153	177
Microbiology(35)	-	-	-	309	346	289	326	301	333	340	2,244	335	373
Bacteriology(35)	-	-	-	10	12	17	12	13	7	11	82	15	11
Microbiology/bacteriol(35)	365	355	324	-	-	-	-	-	-	-	1,044	-	-
Molecular biology	183	187	223	225	275	277	298	303	364	413	2,748	413	481
Neurosciences	-	-	117	134	145	156	120	153	163	181	1,169	192	239
Nutritional sciences(36)	90	99	120	111	109	113	122	141	127	128	1,160	118	106
Parasitology	22	18	14	9	30	21	25	16	20	20	195	13	20
Toxicology(6)	-	-	-	60	97	99	104	115	108	111	694	91	86
Zoology, other(37)	-	-	-	192	158	147	155	139	167	132	1,090	122	126
Zoology(37)	226	198	199	-	-	-	-	-	-	-	623	-	-
Biological sci, general	209	204	196	174	190	190	213	229	256	231	2,092	337	278
Biological sci, other	163	154	129	106	121	88	125	123	160	116	1,285	142	143

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

				Year of doctorate										
Sex and Subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
TOTAL, MALE AND FEMALE														
SOCIAL SCIENCES	5,516	9,493	15,009	2,927	3,424	3,550	3,716	3,669	3,698	3,681	3,445	3,343	3,208	34,661
Agricultural economics	-	92	92	114	170	162	178	182	162	162	143	159	154	1,586
Anthropology	370	645	1,015	217	239	260	326	379	386	428	385	399	383	3,402
Area studies	19	82	101	71	77	34	29	35	36	30	18	26	24	380
Criminology(38)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Demography(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Econometrics	76	131	207	27	27	33	31	19	27	30	29	23	22	268
Economics	2,084	3,202	5,286	826	793	861	912	834	868	855	811	778	780	8,318
Geography	292	403	695	137	158	177	215	195	187	155	155	158	129	1,666
History of science(39)	-	-	-	-	35	39	30	33	27	36	29	25	28	282
International relations	276	436	712	102	146	112	128	133	113	123	96	92	81	1,126
Linguistics	246	492	738	137	175	160	208	168	194	152	190	175	156	1,715
Pol sci/government(40)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Political science(40)	-	-	-	-	-	-	-	1	1	628	614	603	522	2,369
Pol sci, public admin(40)	1,121	2,002	3,123	534	675	799	780	775	748	40	-	-	-	4,351
Public policy studies(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sociology	925	1,613	2,538	505	587	639	599	645	680	734	725	610	632	6,356
Statistics	-	134	134	121	133	85	65	37	43	35	35	46	23	623
Urban studies(41)	-	-	-	-	33	52	53	70	76	92	80	76	91	623
Social sciences, general	25	40	65	21	22	21	38	34	36	35	27	33	33	300
Social sciences, other	82	221	303	115	154	116	124	129	114	146	108	140	150	1,296
PSYCHOLOGY	4,351	6,618	10,969	1,890	2,145	2,279	2,458	2,598	2,751	2,883	2,990	3,055	3,091	26,140
Clinical	1,536	2,138	3,674	549	622	679	746	771	810	883	936	1,061	1,069	8,126
Cognitive(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Comparative(42)	45	70	115	22	15	21	24	23	22	28	22	20	21	218
Counseling(43)	287	392	679	113	146	151	200	201	231	267	269	278	315	2,171
Developmental(44)	107	252	359	84	114	135	149	162	181	190	203	208	221	1,647
Educational	262	288	550	88	96	127	115	122	134	124	136	145	163	1,250
Exper, compar, physiol(42)	450	7	457	-	-	-	-	-	-	-	-	-	-	-
Experimental(42)	532	1,384	1,916	366	396	353	333	354	351	357	338	299	293	3,440
Indust/organizational(45)	188	248	436	75	68	55	76	80	63	73	81	74	87	732
Physiological(42)	113	404	517	116	130	121	122	118	124	133	132	126	102	1,224
Quantitative(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Personality	121	164	285	50	46	51	51	60	62	62	63	41	42	528
Psychometrics	91	97	188	18	36	25	24	24	17	27	19	15	25	230
School	70	115	185	45	70	89	109	89	103	143	148	125	125	1,046
Social	409	620	1,029	157	172	183	214	202	233	209	202	204	216	1,992
Psychology, general	96	299	395	122	127	133	155	250	244	218	262	299	207	2,017
Psychology, other	44	140	184	85	107	156	140	142	176	169	179	160	205	1,519
TOTAL, ENGINEERING	5,971	13,122	19,093	3,446	3,514	3,509	3,374	3,161	3,011	2,838	2,648	2,425	2,494	30,420
Aerospace,aero/astronaut(46)	252	696	948	204	198	181	167	148	141	122	115	103	81	1,460
Agricultural	101	182	283	56	61	67	75	52	56	37	33	43	66	546
Bioengineering/biomed(47)	-	37	37	45	71	77	71	62	76	73	75	79	69	698
Ceramic	96	200	296	46	44	31	26	26	22	24	30	24	24	297
Chemical	1,127	1,842	2,969	445	391	385	408	388	370	314	306	261	287	3,555
Civil	598	1,326	1,924	311	379	362	357	324	290	314	269	236	236	3,078
Communications(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Computer	-	-	-	-	-	-	-	-	102	119	123	76	78	498
Electrical/electronics(48)				-	-	-	-	-	-	-	-	-	-	—
Electrical(48)	1,235	2,706	3,941	706	745	690	673	594	536	512	461	410	450	5,777
Electronics(48)	331	606	937	151	117	125	114	84	76	80	83	53	83	966
Engineering mechanics	446	1,055	1,501	235	213	208	177	167	162	113	102	95	85	1,557
Engineering physics(49)	232	548	780	41	38	39	34	25	19	19	20	15	17	267
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Environmental health eng(50)	115	250	365	55	48	75	78	66	71	74	67	67	66	667
Fuel tech/petro eng(9)	-	23	23	12	16	6	10	14	9	4	5	2	4	82
Industrial	106	348	454	117	134	142	109	92	92	67	73	51	82	959
Materials science	-	22	22	35	52	88	132	116	132	117	125	125	125	1,047
Mechanical	683	1,608	2,291	400	398	408	364	377	325	304	270	282	281	3,409
Metallurgical(51)	487	955	1,442	222	210	175	141	138	118	111	93	98	87	1,393
Mining/mineral(52)	-	10	10	10	15	16	12	2	7	6	2	7	4	81
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(49)	-	120	120	118	120	117	129	111	89	134	105	107	95	1,125
Ocean(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operations research	-	-	-	-	1	62	104	128	89	82	76	84	67	693
Petroleum(53)	-	-	-	-	-	-	6	16	17	17	18	19	24	117
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Systems(54)	-	-	-	-	-	-	-	-	79	69	71	63	75	357
Engineering, general	17	107	124	38	34	33	37	54	38	41	33	44	32	384
Engineering, other	145	481	626	199	229	222	150	177	95	85	93	81	76	1,407
TOTAL, NON-S&E(55)	20,470	37,251	57,721	11,454	12,504	13,717	14,403	14,353	14,242	14,678	13,993	13,492	13,650	136,486
TOTAL, ALL FIELDS	58,699	103,371	162,070	29,498	31,867	33,041	33,755	33,047	32,952	32,946	31,716	30,875	31,239	320,936

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

	Year of doctorate												
Sex and Subfield	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
TOTAL, MALE AND FEMALE													
SOCIAL SCIENCES	3,120	3,154	3,077	3,083	3,015	2,994	3,139	2,980	3,051	3,125	30,738	3,150	3,306
Agricultural economics	160	168	179	157	158	147	158	136	155	164	1,582	144	165
Anthropology	370	369	333	373	335	353	381	352	325	325	3,516	324	340
Area studies	22	20	19	20	23	19	28	17	16	17	201	22	23
Criminology(38)	30	35	36	49	41	38	24	29	43	32	357	42	35
Demography(6)	-	-	-	26	19	25	15	26	19	22	152	20	27
Econometrics	22	17	24	21	27	27	25	25	27	26	241	26	24
Economics	745	808	737	792	767	785	835	798	826	872	7,965	837	853
Geography	131	109	106	121	114	120	120	111	129	105	1,166	131	108
History of science(39)	21	26	29	13	24	23	24	25	22	20	227	26	27
International relations	80	87	77	76	95	78	76	82	77	94	822	97	88
Linguistics	182	176	191	164	160	176	189	199	166	188	1,791	167	227
Pol sci/government(40)	-	-	-	397	419	406	414	404	392	430	2,862	462	434
Political science(40)	505	445	459	-	-	-	-	-	-	-	1,409	-	-
Pol sci, public admin(40)	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	69	54	70	81	83	73	79	509	87	111
Sociology	600	605	568	525	515	461	491	423	449	436	5,073	428	466
Statistics	33	40	43	47	39	60	65	49	47	69	492	69	31
Urban studies(41)	79	94	93	74	81	75	50	72	86	62	766	67	89
Social sciences, general	32	22	34	17	17	17	36	30	28	26	259	23	36
Social sciences, other	108	133	149	142	127	114	127	119	171	158	1,348	178	222
PSYCHOLOGY	3,098	3,358	3,159	3,347	3,257	3,117	3,124	3,169	3,064	3,203	31,896	3,269	3,240
Clinical	1,106	1,259	1,168	1,241	1,195	1,181	1,172	1,214	1,094	1,260	11,890	1,330	1,302
Cognitive(6)	-	-	-	65	77	76	70	80	83	79	530	76	94
Comparative(42)	8	11	12	11	13	11	14	9	7	8	104	8	7
Counseling(43)	299	351	348	432	464	431	449	486	482	501	4,243	466	495
Developmental(44)	207	201	192	219	207	175	184	200	176	148	1,909	159	156
Educational	137	180	140	154	210	127	106	89	103	105	1,351	98	110
Exper, compar, physiol(42)	-	-	-	-	-	-	-	-	-	-	-	-	-
Experimental(42)	307	283	240	209	169	165	147	146	135	146	1,947	143	142
Indust/organizational(45)	66	87	83	90	106	102	110	107	118	104	973	125	142
Physiological(42)	108	102	90	94	73	79	73	69	85	62	835	46	45
Quantitative(6)	-	-	-	14	17	16	23	13	12	11	106	15	7
Personality	43	49	36	32	25	21	16	25	18	28	293	20	13
Psychometrics	21	27	8	10	6	10	11	9	11	6	119	8	9
School	175	133	166	121	89	92	116	93	115	107	1,208	82	82
Social	190	180	179	191	157	167	141	133	140	128	1,606	145	147
Psychology, general	210	279	242	292	267	265	308	339	359	358	2,919	368	321
Psychology, other	220	216	255	172	182	199	184	157	126	152	1,863	180	168
TOTAL, ENGINEERING	2,479	2,528	2,646	2,781	2,913	3,166	3,376	3,712	4,188	4,544	32,333	4,893	5,212
Aerospace,aero/astronaut(46)	81	97	86	106	119	124	118	142	150	178	1,201	192	207
Agricultural	68	64	48	58	74	60	52	74	70	102	670	101	84
Bioengineering/biomed(47)	68	64	59	74	70	69	67	75	114	115	775	129	149
Ceramic	24	24	20	24	25	19	25	42	30	35	268	43	58
Chemical	285	296	306	349	361	440	476	527	624	625	4,289	561	620
Civil	240	287	308	354	351	358	387	441	489	498	3,713	505	509
Communications(6)	-	-	-	25	11	30	23	26	24	25	164	35	21
Computer	62	71	72	83	56	55	77	62	100	117	755	131	178
Electrical/electronics(48)	-	-	-	436	587	629	706	691	886	995	4,930	1,110	1,206
Electrical(48)	405	410	470	66	6	2	-	-	-	-	1,359	-	-
Electronics(48)	73	68	74	15	-	-	-	-	-	-	230	-	-
Engineering mechanics	91	78	103	68	91	89	94	113	105	110	942	111	113
Engineering physics(49)	18	22	12	10	8	12	13	13	9	16	133	16	23
Engineering science(6)	-	-	-	30	28	31	30	26	32	27	204	37	42
Environmental health eng(50)	66	71	60	43	57	33	42	36	43	41	492	48	64
Fuel tech/petro eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	77	66	79	86	84	92	101	120	127	162	994	151	163
Materials science	143	113	147	157	168	188	187	238	252	257	1,850	307	362
Mechanical	293	282	334	311	336	424	442	544	610	650	4,226	772	761
Metallurgical(51)	106	97	88	87	78	96	93	112	92	88	937	90	70
Mining/mineral(52)	4	8	7	22	16	16	22	27	17	33	172	39	38
Naval arch/marine engin(2)	-	-	-	4	5	8	9	7	9	9	51	8	5
Nuclear(49)	112	130	121	103	120	96	98	84	104	86	1,054	114	107
Ocean(6)	-	-	-	12	11	25	14	24	21	20	127	17	21
Operations research	63	80	58	44	50	54	54	51	44	68	566	46	76
Petroleum(53)	31	21	27	22	17	24	18	23	33	29	245	49	28
Polymer(6)	-	-	-	21	31	40	37	34	28	58	249	48	42
Systems(54)	61	68	49	57	52	57	33	47	44	30	498	51	48
Engineering, general	42	36	29	30	29	26	55	54	49	61	411	75	78
Engineering, other	66	75	89	84	72	69	103	79	82	109	828	107	139
TOTAL, NON-S&E(55)	13,497	13,361	13,094	12,889	12,823	12,585	12,644	12,657	12,750	12,788	129,088	13,380	13,703
TOTAL, ALL FIELDS	31,020	31,357	31,111	31,282	31,337	31,297	31,895	32,363	33,489	34,318	319,469	36,057	37,451

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

	Year of doctorate													
Sex and Subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
MALE														
TOTAL, S&E	35,433	60,543	95,976	16,400	17,373	17,182	16,842	16,032	15,805	15,219	14,567	13,995	13,913	157,328
TOTAL, SCIENCES	29,493	47,467	76,960	12,970	13,875	13,695	13,514	12,905	12,846	12,436	11,993	11,623	11,481	127,338
PHYSICAL SCIENCES	9,141	14,135	23,276	3,666	3,718	3,404	3,209	2,902	2,812	2,617	2,477	2,364	2,382	29,551
Physics/astronomy	3,466	6,157	9,623	1,610	1,682	1,588	1,533	1,282	1,230	1,182	1,086	1,015	1,035	13,243
Acoustics	47	47	94	23	19	20	14	13	11	9	12	14	12	147
Astronomy(1)	-	34	34	45	54	59	60	52	52	71	56	60	52	561
Astronomy/astrophysics(1)	128	279	407	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	-	62	62	58	51	62	65	75	67	68	55	71	55	627
Atomic/molecular	396	612	1,008	149	122	147	119	118	135	114	99	86	66	1,155
Electron(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electromagnetism(3)	106	123	229	18	18	11	13	8	8	12	9	10	6	113
Elementary particle	527	999	1,526	248	265	192	218	135	120	124	129	132	114	1,677
Fluids	85	184	269	20	20	28	28	19	21	19	14	12	13	194
Mechanics(4)	23	40	63	7	6	7	5	3	3	4	-	-	-	35
Nuclear(5)	678	883	1,561	206	218	230	175	144	127	88	90	73	99	1,450
Optics	37	64	101	30	25	31	33	23	32	48	30	33	45	330
Plasma	-	63	63	85	85	92	69	57	53	74	70	61	60	706
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid state	798	1,693	2,491	392	428	383	388	330	303	269	246	226	226	3,191
Theoretical physics(7)	257	-	257	-	-	-	-	-	-	-	-	-	-	-
Thermal(8)	30	89	119	16	17	17	13	16	9	4	7	11	7	117
Physics, general	131	449	580	156	160	148	198	171	158	168	163	143	177	1,642
Physics, other	223	536	759	157	194	161	135	118	131	110	106	83	103	1,298
Chemistry	5,675	7,978	13,653	2,056	2,036	1,816	1,676	1,620	1,582	1,435	1,391	1,349	1,347	16,308
Agricultural/food	178	226	404	50	51	16	8	11	8	11	6	6	9	176
Analytical	389	585	974	151	166	131	120	140	130	142	161	161	180	1,482
Inorganic	522	925	1,447	275	269	258	229	174	195	200	169	174	160	2,103
Nuclear	127	132	259	32	32	20	23	29	20	24	18	11	13	222
Organic	2,376	3,277	5,653	787	748	665	599	567	561	455	431	399	415	5,627
Pharmaceutical	196	256	452	53	62	40	44	59	57	46	45	46	37	489
Physical	1,624	2,086	3,710	509	463	418	404	344	341	300	298	268	273	3,618
Polymer	-	-	-	-	-	-	14	33	37	40	53	53	62	292
Theoretical	97	173	270	58	56	57	48	44	37	42	33	39	47	461
Chemistry, general	95	179	274	78	91	121	124	175	152	120	123	136	102	1,222
Chemistry, other	71	139	210	63	98	90	63	44	44	55	54	56	49	616
EARTH, ATMOS, OCEAN SCI	1,361	2,073	3,434	483	523	576	597	581	595	579	630	560	584	5,708
Applied geo, geo eng(9)	109	123	232	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	-	26	26	17	27	41	22	31	22	22	18	14	18	232
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atmos/meteorol sci, other	-	-	-	-	-	-	-	-	-	19	40	32	41	132
Atmospheric dynamics	-	-	-	-	-	-	-	-	-	14	29	20	25	88
Atmospheric phys/chem	-	-	-	-	-	-	-	-	-	13	15	22	15	65
Environmental sciences(10)	-	-	-	-	-	21	50	47	69	51	47	38	46	369
Geochemistry(11)	-	38	38	39	50	34	42	42	46	46	50	46	47	442
Geology(12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Structural geology(12)	64	126	190	12	27	23	20	15	15	21	21	24	26	204
Geomorph/glacial geology	46	65	111	17	23	19	27	21	30	26	22	23	12	220
Geophysics/seismology(13)	-	-	-	-	-	-	-	-	-	38	66	54	76	234
Geophysics(13)	126	189	315	66	65	75	66	76	90	31	-	-	-	469
Hydrology/water res(14)	14	50	64	20	28	13	30	16	18	15	23	31	20	214
Marine sciences(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marine sciences, other(15)	-	-	-	-	-	-	-	-	-	-	8	22	30	60
Meteorology(16)	106	200	306	52	59	76	57	55	43	22	-	-	-	364
Mineral, petrol, geochem(11)	367	368	735	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	-	44	44	53	48	56	45	40	41	47	53	29	30	442
Oceanography	61	202	263	64	52	77	84	73	83	75	108	90	82	788
Paleontology	127	203	330	38	30	34	38	38	36	36	23	25	27	325
Stratigraphy, sediment	294	274	568	56	63	49	51	48	42	51	40	28	31	459
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earth sciences, general(17)	27	89	116	28	27	28	39	54	32	30	40	41	36	355
Earth sciences, other(17)	20	76	96	21	24	30	26	25	28	22	27	21	22	246
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MATHEMATICS	1,967	4,077	6,044	1,148	1,142	1,185	1,113	1,096	1,038	890	811	718	650	9,791
Algebra	246	615	861	173	181	145	117	107	105	87	71	72	63	1,121
Analysis/funct analysis(18)	526	1,006	1,532	232	239	231	226	185	166	127	135	105	97	1,743
Applied mathematics	252	553	805	138	119	116	112	132	95	103	104	96	99	1,114
Computing theory	47	203	250	117	137	151	209	189	156	132	88	46	21	1,246
Geometry	83	118	201	35	29	33	28	35	22	20	24	21	20	267
Logic	50	121	171	34	29	33	30	17	34	31	13	21	20	262
Math probability/stat(19)	343	507	850	76	89	139	139	136	159	143	138	137	134	1,290
Number theory	75	83	158	24	28	30	28	21	23	24	27	17	16	238
Operations research	-	-	-	-	-	-	3	24	51	35	37	38	39	227
Topology	251	509	760	133	112	123	99	102	88	66	63	52	52	890
Mathematics, general	58	199	257	89	93	101	88	109	99	82	77	77	68	883
Mathematics, other	36	163	199	97	86	83	34	39	40	40	34	36	21	510
COMPUTER & INFO SCI	-	-	-	-	-	-	-	-	-	-	26	110	183	319
Computer sciences	-	-	-	-	-	-	-	-	-	-	26	110	183	319
Information sci/systems(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

	Year of doctorate												
Sex and Subfield	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
MALE													
TOTAL, S&E	13,639	13,880	13,747	13,769	13,810	13,900	14,167	14,472	15,162	15,522	142,068	16,382	16,991
TOTAL, SCIENCES	11,250	11,451	11,225	11,112	11,048	10,932	11,016	11,002	11,260	11,353	111,649	11,904	12,231
PHYSICAL SCIENCES	2,199	2,318	2,337	2,431	2,446	2,452	2,585	2,686	2,760	2,627	24,841	2,839	2,943
Physics/astronomy	916	942	930	969	1,001	978	1,078	1,117	1,172	1,156	10,259	1,242	1,256
Acoustics	21	11	11	13	21	7	13	17	14	15	143	19	10
Astronomy(1)	45	43	41	42	38	38	48	39	53	41	428	39	43
Astronomy/astrophysics(1)	-	-	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	63	55	45	58	48	51	52	48	61	55	536	69	69
Atomic/molecular	69	58	89	65	74	52	64	75	69	66	681	80	72
Electron(2)	-	-	-	1	2	3	2	6	2	4	20	2	1
Electromagnetism(3)	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	112	111	115	133	130	146	136	144	158	125	1,310	149	162
Fluids	15	11	11	13	10	15	4	21	17	13	130	16	14
Mechanics(4)	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(5)	67	60	47	84	64	79	81	70	82	73	707	68	59
Optics	41	53	40	48	50	42	49	45	59	71	498	71	71
Plasma	57	63	66	70	70	52	58	67	61	57	621	40	56
Polymer(6)	-	-	-	10	8	8	8	12	20	6	72	8	14
Solid state	187	233	216	201	240	229	251	263	217	273	2,310	271	330
Theoretical physics(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
Thermal(8)	5	7	-	-	-	-	-	-	-	-	12	-	-
Physics, general	156	154	154	141	158	166	204	207	246	250	1,836	290	218
Physics, other	78	83	95	90	88	90	108	103	113	107	955	120	137
Chemistry	1,283	1,376	1,407	1,462	1,445	1,474	1,507	1,569	1,588	1,471	14,582	1,597	1,687
Agricultural/food	-	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	162	199	163	218	196	223	211	242	241	226	2,081	225	221
Inorganic	157	153	184	177	183	204	198	181	184	182	1,803	182	186
Nuclear	13	12	17	10	15	6	16	13	7	6	115	11	10
Organic	410	433	441	433	452	415	415	423	442	406	4,270	348	429
Pharmaceutical	37	47	44	62	41	45	41	49	54	43	463	28	56
Physical	226	224	275	250	266	234	222	243	247	223	2,410	249	277
Polymer	56	57	45	50	51	70	60	83	69	63	604	68	87
Theoretical	40	27	26	41	32	41	35	29	41	37	349	41	38
Chemistry, general	130	168	146	154	143	168	237	244	237	221	1,848	396	337
Chemistry, other	52	56	66	67	66	68	72	62	66	64	639	49	46
EARTH, ATMOS, OCEAN SCI	564	527	554	540	508	506	489	514	583	590	5,375	620	652
Applied geo, geo eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	27	21	23	8	5	8	3	4	6	6	111	3	1
Atmos/meteorol sci, gen(6)	-	-	-	15	4	10	7	12	13	11	72	18	24
Atmos/meteorol sci, other	47	32	25	24	9	10	6	10	9	12	184	1	9
Atmospheric dynamics	17	26	19	15	23	20	14	14	23	14	185	16	18
Atmospheric phys/chem	18	14	17	20	11	15	18	20	19	13	165	17	18
Environmental sciences(10)	34	43	42	39	36	36	27	23	42	48	370	39	22
Geochemistry(11)	45	43	43	39	36	37	30	22	39	26	360	47	44
Geology(12)	-	-	-	88	102	90	95	89	108	130	702	134	157
Structural geology(12)	19	26	19	-	-	-	-	-	-	-	64	-	-
Geomorph/glacial geology	13	11	15	8	8	12	9	16	6	7	105	13	16
Geophysics/seismology(13)	69	66	75	67	61	79	71	64	75	76	703	76	96
Geophysics(13)	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	24	20	21	19	16	16	15	13	19	22	185	12	14
Marine sciences(6)	-	-	-	15	15	22	19	35	19	20	145	32	25
Marine sciences, other(15)	20	28	32	-	-	-	-	-	-	-	80	-	-
Meteorology(16)	-	-	-	17	26	21	25	17	28	27	161	17	24
Mineral, petrol, geochem(11)	-	-	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	43	25	33	18	22	18	13	16	16	31	235	22	21
Oceanography	75	63	78	69	57	47	70	60	64	67	650	65	62
Paleontology	16	18	17	15	29	18	9	16	21	13	172	19	17
Stratigraphy, sediment	35	35	39	21	14	18	14	20	22	18	236	20	21
Geological sciences, gen(17)	-	-	-	13	7	6	11	15	6	17	75	26	23
Geological sciences, oth(17)	-	-	-	19	21	8	8	24	25	17	122	20	26
Earth sciences, general(17)	44	42	33	-	-	-	-	-	-	-	119	-	-
Earth sciences, other(17)	18	14	23	-	-	-	-	-	-	-	55	-	-
Physical sciences, other(6)	-	-	-	11	6	15	25	24	23	15	119	23	14
MATHEMATICS	649	616	624	588	583	582	608	615	628	704	6,197	734	846
Algebra	63	42	48	47	52	49	28	47	44	40	460	33	56
Analysis/funct analysis(18)	83	97	83	68	58	73	70	80	61	83	756	75	111
Applied mathematics	93	94	98	104	92	97	115	102	125	130	1,050	151	165
Computing theory	13	14	11	10	12	14	10	10	9	11	114	11	16
Geometry	33	28	30	38	21	33	37	27	40	40	327	34	61
Logic	22	17	17	19	24	26	20	16	18	7	186	16	22
Math probability/stat(19)	125	131	136	124	150	118	114	107	121	129	1,255	126	150
Number theory	25	23	24	15	23	16	19	13	21	18	197	25	22
Operations research	36	32	31	15	26	16	25	21	26	18	246	27	12
Topology	50	44	40	35	32	31	28	38	24	29	351	39	39
Mathematics, general	71	69	77	78	67	73	105	115	114	160	929	159	156
Mathematics, other	35	25	29	35	26	36	37	39	25	39	326	38	36
COMPUTER & INFO SCI	197	206	200	250	258	277	351	385	459	504	3,087	595	681
Computer sciences	197	206	200	231	232	229	316	333	403	450	2,797	527	623
Information sci/systems(6)	-	-	-	19	26	48	35	52	56	54	290	68	58

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

	Year of doctorate													
Sex and Subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
MALE														
AGRIC & BIOL SCI	8,479	13,532	22,011	3,627	3,897	3,781	3,714	3,524	3,553	3,508	3,423	3,411	3,470	35,908
Agricultural sciences	2,275	3,114	5,389	781	874	824	824	779	862	738	726	788	775	7,971
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agronomy	709	851	1,560	196	186	138	151	130	132	143	120	129	129	1,454
Animal breeding/genetics(21)	565	639	1,204	123	92	67	34	17	21	16	24	21	25	440
Animal nutrition(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sci/nutrition(22)	-	-	-	-	-	66	109	127	121	111	97	93	104	828
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sciences, other(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish/wildlife(23)	98	127	225	45	61	48	46	52	62	53	64	59	64	554
Fisheries science(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife management(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences(24)	-	38	38	33	66	73	82	82	94	70	82	92	85	759
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry science(25)	164	301	465	75	84	74	79	74	84	79	63	85	82	779
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest engineering(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horticulture science	244	332	576	65	73	82	49	42	75	47	56	64	60	613
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phytopathology(26)	377	465	842	101	106	88	94	86	95	78	71	83	69	871
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences(28)	-	40	40	40	54	83	100	89	97	67	71	92	68	761
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agriculture, general	9	35	44	4	2	5	4	5	8	8	5	4	7	52
Agriculture, other	109	286	395	99	150	100	76	75	73	66	73	66	82	860
Biological sciences	6,204	10,418	16,622	2,846	3,023	2,957	2,890	2,745	2,691	2,770	2,697	2,623	2,695	27,937
Anatomy	193	363	556	98	128	116	96	98	94	98	93	102	103	1,026
Biochemistry	1,261	2,001	3,262	486	537	480	506	450	473	476	474	461	445	4,788
Biometrics/biostat	56	97	153	30	36	23	31	29	26	38	39	36	33	321
Biophysics	143	409	552	96	92	98	107	108	100	103	125	88	119	1,036
Botany, other(29)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Botany(29)	498	693	1,191	146	171	164	160	149	122	143	126	102	103	1,386
Cell biology(30)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cytology(30)	50	119	169	39	29	18	20	26	31	32	25	24	28	272
Devel bio/embryology(31)	36	112	148	28	26	27	19	15	18	12	12	11	7	175
Ecology	178	281	459	106	107	122	118	133	123	121	144	150	148	1,272
Endocrinology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Entomology	471	694	1,165	170	206	186	168	162	162	137	135	134	151	1,611
Human/animal genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Genetics(32)	366	534	900	116	125	121	104	95	107	99	96	82	89	1,034
Human/animal pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pathology(33)	103	203	306	40	63	79	73	73	59	71	83	61	65	667
Human/animal pharmacol	311	549	860	133	153	165	133	143	140	180	155	170	185	1,557
Human/animal physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal physiology(34)	345	1,041	1,386	303	303	291	290	259	272	232	265	257	238	2,710
Animal/plant physiol(34)	275	-	275	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	144	357	501	88	79	68	72	66	56	48	32	38	44	591
Hydrobiology	33	58	91	28	24	22	10	17	6	12	13	2	7	141
Immunology	-	-	-	-	-	12	38	52	50	63	68	65	86	434
Microbiology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bacteriology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Microbiology/bacteriol(35)	816	1,312	2,128	325	334	307	290	276	265	269	226	248	231	2,771
Molecular biology	-	72	72	70	85	103	89	95	102	105	99	118	107	973
Neurosciences	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutritional sciences(36)	20	-	20	-	-	-	-	-	-	41	37	34	39	151
Parasitology	-	-	-	-	-	-	14	22	15	17	16	12	16	112
Toxicology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology, other(37)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology(37)	805	1,126	1,931	310	299	312	264	217	208	215	204	183	190	2,402
Biological sci, general	29	155	184	96	117	114	148	135	132	133	124	127	137	1,263
Biological sci, other	71	242	313	138	109	129	140	125	130	125	106	118	124	1,244

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Sex and Subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
MALE													
AGRIC & BIOL SCI	3,565	3,565	3,552	3,390	3,529	3,495	3,353	3,284	3,436	3,433	34,602	3,644	3,746
Agricultural sciences	815	848	800	882	864	940	826	805	829	860	8,469	929	863
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	1	1	1	1
Agronomy	141	162	143	138	125	139	144	126	122	120	1,360	122	106
Animal breeding/genetics(21)	23	19	19	21	23	20	21	20	25	20	211	19	16
Animal nutrition(22)	-	-	-	50	64	65	52	69	42	52	394	41	47
Animal sci/nutrition(22)	106	132	116	-	-	-	-	-	-	-	354	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	11	15	26	18	15
Poultry science(22)	-	-	-	-	-	-	-	-	8	9	17	14	12
Animal sciences, other(22)	-	-	-	83	75	82	75	60	73	70	518	79	72
Fish/wildlife(23)	66	57	58	-	-	-	-	-	-	-	181	-	-
Fisheries science(23)	-	-	-	30	40	31	23	32	34	29	219	36	35
Wildlife management(23)	-	-	-	30	28	37	18	22	3	-	138	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	28	42	70	52	51
Food sciences(24)	78	76	80	103	81	103	81	83	13	1	699	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	5	10	15	8	10
Food sciences, other(24)	-	-	-	-	-	-	-	-	83	94	177	87	91
Forestry science(25)	74	89	74	86	89	90	71	95	13	-	681	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	18	19	37	19	14
Forest engineering(25)	-	-	-	-	-	-	-	-	3	1	4	2	1
Forest management(25)	-	-	-	-	-	-	-	-	16	19	35	13	18
Wood science(25)	-	-	-	-	-	-	-	-	7	16	23	16	14
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	7	11	18	13	16
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	29	49	78	52	40
Horticulture science	65	68	69	63	45	65	48	55	45	56	579	74	59
Plant breeding/genetics(26)	-	-	-	58	70	74	65	59	71	51	448	67	59
Plant pathology(26)	-	-	-	73	49	65	71	54	34	39	385	39	64
Phytopathology(26)	104	78	87	-	-	-	-	-	-	-	269	-	-
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	1	6	7	3	2
Plant sciences, other(26)	-	-	-	15	18	18	17	17	20	11	116	19	13
Soil sciences(28)	73	83	68	78	95	90	93	67	17	-	664	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	26	21	47	21	18
Soil sciences, other(28)	-	-	-	-	-	-	-	-	51	68	119	83	67
Agriculture, general	3	4	4	7	1	5	4	5	6	5	44	5	2
Agriculture, other	82	80	82	47	61	56	43	41	18	25	535	26	20
Biological sciences	2,750	2,717	2,752	2,508	2,665	2,555	2,527	2,479	2,607	2,573	26,133	2,715	2,883
Anatomy	102	108	101	70	66	90	59	50	56	53	755	41	46
Biochemistry	485	456	483	452	415	397	382	374	410	401	4,255	441	477
Biometrics/biostat	29	36	41	23	31	28	20	23	32	26	289	29	30
Biophysics	90	89	78	72	69	62	59	64	76	66	725	80	73
Botany, other(29)	-	-	-	77	88	86	79	70	71	65	536	71	67
Botany(29)	106	105	104	-	-	-	-	-	-	-	315	-	-
Cell biology(30)	-	-	-	77	75	61	86	72	63	76	510	76	87
Cytology(30)	31	33	23	-	-	-	-	-	-	-	87	-	-
Devel bio/embryology(31)	11	10	7	6	7	10	2	6	4	6	69	10	17
Ecology	133	146	131	146	157	148	143	120	108	125	1,357	114	130
Endocrinology(6)	-	-	-	14	19	13	11	8	11	11	87	13	17
Entomology	135	130	147	121	127	139	148	98	107	116	1,268	121	103
Human/animal genetics(32)	-	-	-	52	43	56	50	59	61	55	376	80	89
Plant genetics(32)	-	-	-	14	16	23	10	19	20	15	117	24	18
Genetics(32)	102	95	111	-	-	-	-	-	-	-	308	-	-
Human/animal pathology(33)	-	-	-	73	65	75	58	79	69	64	483	69	75
Plant pathology(33)	-	-	-	21	25	30	23	23	21	14	157	25	38
Pathology(33)	80	79	71	-	-	-	-	-	-	-	230	-	-
Human/animal pharmacol	197	211	203	147	177	159	164	148	160	142	1,708	152	172
Human/animal physiol(34)	-	-	-	178	178	175	163	172	136	167	1,169	180	170
Animal physiology(34)	272	247	233	-	-	-	-	-	-	-	752	-	-
Animal/plant physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	43	57	43	43	47	46	34	47	51	32	443	32	46
Hydrobiology	-	-	-	-	-	-	-	-	-	-	-	-	-
Immunology	84	88	93	88	81	70	95	83	88	91	861	81	101
Microbiology(35)	-	-	-	192	225	176	208	198	213	216	1,428	219	223
Bacteriology(35)	-	-	-	6	8	13	10	7	5	9	58	11	6
Microbiology/bacteriol(35)	247	252	233	-	-	-	-	-	-	-	732	-	-
Molecular biology	123	118	142	149	172	182	183	187	234	260	1,750	261	299
Neurosciences	-	-	79	85	102	98	81	105	103	118	771	116	151
Nutritional sciences(36)	28	40	49	39	41	41	36	44	38	37	393	30	35
Parasitology	15	13	12	9	26	19	22	11	12	15	154	9	13
Toxicology(6)	-	-	-	44	72	75	71	81	78	72	493	55	56
Zoology, other(37)	-	-	-	129	116	101	111	95	124	97	773	85	87
Zoology(37)	180	151	154	-	-	-	-	-	-	-	485	-	-
Biological sci, general	147	145	134	114	134	128	140	148	159	154	1,403	195	166
Biological sci, other	110	108	80	67	83	54	79	88	97	70	836	95	91

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

	Year of doctorate													
Sex and Subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
MALE														
SOCIAL SCIENCES	5,015	8,480	13,495	2,600	2,980	3,079	3,140	3,005	2,970	2,905	2,724	2,532	2,381	28,316
Agricultural economics	-	92	92	114	168	159	172	177	159	158	137	154	143	1,541
Anthropology	304	493	797	158	174	188	229	254	248	271	249	236	215	2,222
Area studies	15	70	85	65	66	27	27	26	28	22	15	16	15	307
Criminology(38)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Demography(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Econometrics	74	124	198	26	26	32	31	18	25	29	27	21	21	256
Economics	1,995	3,046	5,041	775	739	804	855	760	784	763	740	687	676	7,583
Geography	272	385	657	134	142	165	198	182	177	139	128	127	106	1,498
History of science(39)	-	-	-	-	28	36	20	24	21	22	24	18	22	215
International relations	243	395	638	96	132	102	102	125	92	111	85	82	63	990
Linguistics	200	370	570	103	134	112	142	98	124	82	117	110	78	1,100
Pol sci/government(40)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Political science(40)	-	-	-	-	-	-	-	-	1	522	512	485	427	1,947
Pol sci, public admin(40)	1,042	1,822	2,864	478	592	715	687	660	627	32	-	-	-	3,791
Public policy studies(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sociology	770	1,323	2,093	412	471	501	445	460	470	511	488	386	400	4,544
Statistics	-	125	125	113	129	80	59	35	37	30	30	32	19	564
Urban studies(41)	-	-	-	-	33	45	46	65	68	78	66	53	76	530
Social sciences, general	23	35	58	20	13	18	33	24	22	25	21	23	16	215
Social sciences, other	77	200	277	106	133	95	94	97	87	110	85	102	104	1,013
PSYCHOLOGY	3,530	5,170	8,700	1,446	1,615	1,670	1,741	1,797	1,878	1,937	1,902	1,928	1,831	17,745
Clinical	1,208	1,625	2,833	398	455	516	526	538	550	608	595	643	645	5,474
Cognitive(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Comparative(42)	40	58	98	19	14	17	21	19	15	19	14	11	11	160
Counseling(43)	236	312	548	86	110	107	140	138	162	176	179	186	177	1,461
Developmental(44)	56	138	194	49	56	66	72	79	82	88	84	105	86	767
Educational	195	199	394	66	72	82	80	83	90	79	76	90	90	808
Exper, compar, physiol(42)	391	7	398	-	-	-	-	-	-	-	-	-	-	-
Experimental(42)	458	1,171	1,629	296	315	280	248	270	263	269	239	214	211	2,605
Indust/organizational(45)	183	235	418	69	64	53	70	73	53	63	68	59	67	639
Physiological(42)	101	341	442	96	99	95	89	81	93	95	100	90	75	913
Quantitative(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Personality	96	129	225	40	32	29	34	44	47	31	34	28	19	338
Psychometrics	83	79	162	16	31	22	19	16	16	26	15	11	19	191
School	54	84	138	32	51	57	68	51	61	77	80	67	65	609
Social	318	480	798	123	129	137	160	143	167	148	133	128	126	1,394
Psychology, general	72	205	277	95	99	95	114	177	156	141	164	194	120	1,355
Psychology, other	39	107	146	61	88	114	100	85	123	117	121	102	120	1,031
TOTAL, ENGINEERING	5,940	13,076	19,016	3,430	3,498	3,487	3,328	3,127	2,959	2,783	2,574	2,372	2,432	29,990
Aerospace,aero/astronaut(46)	247	695	942	202	195	181	165	145	139	122	112	102	81	1,444
Agricultural	101	182	283	56	61	67	74	52	55	37	33	43	66	544
Bioengineering/biomed(47)	-	37	37	45	71	74	70	61	71	71	75	79	68	685
Ceramic	95	198	293	46	44	30	25	24	22	24	27	24	23	289
Chemical	1,121	1,831	2,952	443	388	383	404	380	366	307	297	256	279	3,503
Civil	594	1,323	1,917	310	378	361	351	321	287	310	262	230	234	3,044
Communications(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Computer	-	-	-	-	-	-	-	-	95	111	114	71	75	466
Electrical/electronics(48)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical(48)	1,229	2,701	3,930	705	742	686	667	591	527	505	452	399	443	5,717
Electronics(48)	329	605	934	149	116	124	113	84	76	80	80	52	82	956
Engineering mechanics	444	1,050	1,494	234	213	208	173	165	160	112	99	94	84	1,542
Engineering physics(49)	231	547	778	40	38	38	33	24	19	19	20	15	16	262
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Environmental health eng(50)	114	249	363	55	48	74	75	66	69	72	66	65	64	654
Fuel tech/petro eng(9)	-	23	23	11	15	6	10	13	9	3	5	2	4	78
Industrial	106	344	450	117	132	142	107	91	90	65	68	49	77	938
Materials science	-	22	22	35	52	88	129	116	127	111	119	122	118	1,017
Mechanical	683	1,606	2,289	399	398	406	361	372	323	301	267	280	277	3,384
Metallurgical(51)	486	949	1,435	221	209	173	138	137	118	109	92	96	87	1,380
Mining/mineral(52)	-	10	10	10	15	16	12	2	7	6	2	7	4	81
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(49)	-	120	120	117	120	116	128	110	86	132	103	103	92	1,107
Ocean(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operations research	-	-	-	-	1	61	101	127	89	79	72	82	61	673
Petroleum(53)	-	-	-	-	-	-	6	16	16	17	17	19	23	114
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Systems(54)	-	-	-	-	-	-	-	-	79	68	71	62	70	350
Engineering, general	17	106	123	38	34	33	37	54	38	41	31	43	31	380
Engineering, other	143	478	621	197	228	220	149	176	91	81	90	77	73	1,382
TOTAL, NON-S&E(55)	16,908	30,220	47,128	9,127	9,898	10,572	10,828	10,562	9,946	10,043	9,291	8,558	8,389	97,214
TOTAL, ALL FIELDS	52,341	90,763	143,104	25,527	27,271	27,754	27,670	26,594	25,751	25,262	23,858	22,553	22,302	254,542

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Sex and Subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
MALE													
SOCIAL SCIENCES	2,289	2,334	2,237	2,163	2,098	2,044	2,104	2,044	2,006	2,089	21,408	2,110	2,107
Agricultural economics	148	155	159	139	129	126	142	113	124	139	1,374	117	129
Anthropology	196	217	195	198	164	172	184	171	155	177	1,829	151	131
Area studies	17	15	12	9	21	14	22	12	11	12	145	13	19
Criminology(38)	24	26	19	42	31	28	17	22	28	22	259	26	17
Demography(6)	-	-	-	14	11	16	9	19	8	12	89	9	11
Econometrics	20	16	22	17	23	25	23	21	23	24	214	23	19
Economics	643	708	639	663	647	663	672	662	663	701	6,661	667	680
Geography	114	89	87	84	93	91	81	85	96	80	900	96	75
History of science(39)	11	21	19	6	13	21	14	15	12	11	143	17	16
International relations	69	75	66	61	82	62	61	67	63	65	671	82	64
Linguistics	107	98	101	78	78	85	93	93	83	82	898	77	117
Pol sci/government(40)	-	-	-	314	322	299	297	293	296	323	2,144	354	316
Political science(40)	403	349	353	-	-	-	-	-	-	-	1,105	-	-
Pol sci, public admin(40)	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	43	34	46	47	53	48	51	322	62	73
Sociology	369	363	354	309	289	227	276	255	211	214	2,867	221	235
Statistics	24	33	38	42	28	46	48	36	38	49	382	57	21
Urban studies(41)	61	77	68	52	60	54	34	50	55	39	550	46	68
Social sciences, general	19	17	20	14	11	9	23	24	15	17	169	14	19
Social sciences, other	64	75	85	78	62	60	61	53	77	71	686	78	97
PSYCHOLOGY	1,787	1,885	1,721	1,750	1,626	1,576	1,526	1,474	1,388	1,406	16,139	1,362	1,256
Clinical	621	702	651	647	597	590	570	547	483	549	5,957	548	462
Cognitive(6)	-	-	-	34	40	53	37	39	49	46	298	41	48
Comparative(42)	6	8	6	7	4	9	8	3	3	7	61	5	2
Counseling(43)	159	191	192	233	234	216	212	232	221	217	2,107	185	189
Developmental(44)	86	80	67	71	51	63	67	61	45	32	623	47	36
Educational	76	103	65	79	100	49	48	39	38	45	642	29	46
Exper, compar, physiol(42)	-	-	-	-	-	-	-	-	-	-	-	-	-
Experimental(42)	209	190	143	128	99	100	83	92	74	76	1,194	94	78
Indust/organizational(45)	50	65	60	60	66	73	58	58	64	55	609	72	66
Physiological(42)	84	68	67	67	53	44	43	37	40	29	532	18	24
Quantitative(6)	-	-	-	10	12	12	15	6	7	5	67	12	5
Personality	25	23	19	23	13	12	7	14	10	11	157	10	9
Psychometrics	11	17	7	2	3	7	4	6	5	3	65	4	6
School	93	60	80	49	39	38	57	40	49	38	543	29	25
Social	112	104	94	88	75	73	62	61	65	60	794	53	61
Psychology, general	117	146	137	159	133	140	159	169	167	158	1,485	137	139
Psychology, other	138	128	133	93	107	97	96	70	68	75	1,005	78	60
TOTAL, ENGINEERING	2,389	2,429	2,522	2,657	2,762	2,968	3,151	3,470	3,902	4,169	30,419	4,478	4,760
Aerospace,aero/astronaut(46)	80	97	85	104	117	119	117	132	141	170	1,162	188	200
Agricultural	67	62	46	57	73	57	51	71	67	96	647	94	76
Bioengineering/biomed(47)	65	61	53	66	61	58	58	60	96	89	667	106	122
Ceramic	22	23	19	21	23	19	22	38	27	31	245	32	48
Chemical	271	285	289	327	336	405	423	471	564	551	3,922	490	548
Civil	234	281	296	342	332	340	368	424	464	453	3,534	466	479
Communications(6)	-	-	-	25	11	28	23	26	21	24	158	33	19
Computer	57	63	69	77	55	50	72	60	93	105	701	120	169
Electrical/electronics(48)	-	-	-	430	573	602	673	661	848	941	4,728	1,039	1,140
Electrical(48)	394	396	453	65	6	1	-	-	-	-	1,315	-	-
Electronics(48)	72	68	72	15	-	-	-	-	-	-	227	-	-
Engineering mechanics	88	77	98	66	82	85	90	110	102	103	901	102	106
Engineering physics(49)	18	20	12	10	8	11	13	12	9	16	129	15	21
Engineering science(6)	-	-	-	29	28	31	27	26	29	24	194	31	40
Environmental health eng(50)	61	67	55	42	51	31	40	35	38	32	452	38	55
Fuel tech/petro eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	70	60	73	80	68	86	87	107	108	144	883	126	146
Materials science	138	102	134	135	151	165	169	202	227	222	1,645	276	306
Mechanical	289	277	322	305	330	402	428	530	584	628	4,095	743	711
Metallurgical(51)	99	92	85	82	71	87	90	107	87	82	882	83	62
Mining/mineral(52)	4	8	6	21	16	16	20	26	16	29	162	37	32
Naval arch/marine engin(2)	-	-	-	4	5	8	9	7	9	8	50	7	5
Nuclear(49)	111	124	114	98	114	93	92	82	100	79	1,007	105	103
Ocean(6)	-	-	-	12	11	25	14	23	21	18	124	15	20
Operations research	58	73	53	39	50	46	43	44	40	54	500	40	54
Petroleum(53)	31	21	25	22	17	24	17	23	31	28	239	49	27
Polymer(6)	-	-	-	20	29	34	30	30	25	53	221	41	35
Systems(54)	58	64	47	54	51	53	31	44	37	27	466	48	44
Engineering, general	37	35	28	29	29	26	50	46	47	59	386	65	72
Engineering, other	65	73	88	80	64	66	94	73	71	103	777	89	120
TOTAL, NON-S&E(55)	7,973	7,585	7,271	6,980	6,828	6,653	6,424	6,466	6,515	6,289	68,984	6,573	6,695
TOTAL, ALL FIELDS	21,612	21,465	21,018	20,749	20,638	20,553	20,591	20,938	21,677	21,811	211,052	22,955	23,686

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Sex and Subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate 1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
FEMALE														
TOTAL, S&E	2,796	5,577	8,373	1,644	1,990	2,142	2,510	2,662	2,905	3,049	3,156	3,388	3,676	27,122
TOTAL, SCIENCES	2,765	5,531	8,296	1,628	1,974	2,120	2,464	2,628	2,853	2,994	3,082	3,335	3,614	26,692
PHYSICAL SCIENCES	384	762	1,146	227	231	249	235	234	264	244	244	247	292	2,467
Physics/astronomy	54	159	213	45	56	46	56	57	70	55	64	52	73	574
Acoustics	-	-	-	-	-	-	1	-	1	-	-	-	1	3
Astronomy(1)	-	2	2	3	5	4	4	5	8	7	7	4	6	53
Astronomy/astrophysics(1)	6	22	28	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	-	5	5	5	3	4	2	1	4	4	2	3	2	30
Atomic/molecular	6	15	21	3	2	3	3	4	5	2	6	2	6	36
Electron(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electromagnetism(3)	-	3	3	-	-	-	-	-	2	-	-	-	-	2
Elementary particle	8	27	35	8	12	6	4	11	6	6	9	3	7	72
Fluids	4	4	8	1	1	-	-	1	1	1	-	1	1	7
Mechanics(4)	-	-	-	-	-	-	1	1	-	-	-	-	-	2
Nuclear(5)	8	17	25	6	8	4	7	1	3	8	4	4	4	49
Optics	-	2	2	-	-	-	-	1	1	2	1	-	1	6
Plasma	-	-	-	-	1	1	4	-	-	1	2	7	2	18
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid state	9	30	39	11	14	10	12	19	18	13	12	17	17	143
Theoretical physics(7)	3	-	3	-	-	-	-	-	-	-	-	-	-	-
Thermal(8)	1	3	4	1	-	1	3	-	-	-	-	-	-	5
Physics, general	5	13	18	4	4	6	8	9	15	7	10	8	17	88
Physics, other	4	16	20	3	6	7	7	4	6	4	11	3	9	60
Chemistry	330	603	933	182	175	203	179	177	194	189	180	195	219	1,893
Agricultural/food	10	14	24	12	7	6	1	2	-	3	-	2	2	35
Analytical	31	38	69	9	8	16	8	7	12	10	13	17	27	127
Inorganic	39	89	128	28	28	31	33	27	34	26	29	27	35	298
Nuclear	8	5	13	2	4	2	1	2	1	1	6	2	1	22
Organic	120	213	333	56	62	49	46	48	44	42	48	55	54	504
Pharmaceutical	7	11	18	5	4	8	6	6	9	9	5	5	6	63
Physical	92	178	270	49	39	54	53	45	52	55	41	42	53	483
Polymer	-	-	-	-	-	-	-	2	3	2	2	4	5	18
Theoretical	5	19	24	6	9	10	5	7	9	6	5	7	3	67
Chemistry, general	12	19	31	9	11	12	16	22	17	24	23	25	24	183
Chemistry, other	6	17	23	6	3	15	10	9	13	11	8	9	9	93
EARTH, ATMOS, OCEAN SCI	19	50	69	15	13	22	27	34	30	62	59	61	58	381
Applied geo, geo eng(9)	1	-	1	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	-	1	1	-	-	-	-	-	-	1	2	1	1	5
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atmos/meteorol sci, other	-	-	-	-	-	-	-	-	-	4	6	2	1	13
Atmospheric dynamics	-	-	-	-	-	-	-	-	-	-	3	1	1	5
Atmospheric phys/chem	-	-	-	-	-	-	-	-	-	3	-	-	1	4
Environmental sciences(10)	-	-	-	-	-	1	5	6	8	10	7	7	7	51
Geochemistry(11)	-	3	3	1	3	3	-	4	3	3	7	5	10	39
Geology(12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Structural geology(12)	-	4	4	-	1	1	1	-	1	1	1	4	2	12
Geomorph/glacial geology	1	3	4	-	-	-	-	2	-	3	-	1	2	8
Geophysics/seismology(13)	-	-	-	-	-	-	-	-	-	2	7	6	5	20
Geophysics(13)	-	1	1	1	1	3	1	4	2	2	-	-	-	14
Hydrology/water res(14)	-	1	1	-	-	-	-	1	-	-	-	-	-	1
Marine sciences(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marine sciences, other(15)	-	-	-	-	-	-	-	-	-	-	1	6	1	8
Meteorology(16)	1	3	4	3	-	2	1	2	2	1	-	-	-	11
Mineral, petrol, geochem(11)	9	11	20	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	-	6	6	4	-	5	2	1	2	1	7	5	3	30
Oceanography	-	5	5	2	1	1	4	8	3	14	5	8	9	55
Paleontology	5	4	9	2	2	1	6	3	5	7	3	6	9	44
Stratigraphy, sediment	2	2	4	-	4	2	4	-	1	6	2	4	3	26
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earth sciences, general(17)	-	5	5	1	-	1	2	1	-	3	4	4	1	17
Earth sciences, other(17)	-	1	1	1	1	2	1	2	3	1	4	1	2	18
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MATHEMATICS	115	248	363	77	96	96	119	115	109	113	122	120	119	1,086
Algebra	24	64	88	18	19	22	25	18	21	29	17	15	25	209
Analysis/funct analysis(18)	30	54	84	12	22	10	18	23	14	14	18	13	14	158
Applied mathematics	6	20	26	9	3	3	7	4	6	2	9	12	12	67
Computing theory	1	4	5	2	3	12	16	14	10	16	13	9	4	99
Geometry	3	11	14	5	6	2	4	3	4	3	2	1	5	35
Logic	3	9	12	2	3	6	3	2	4	3	4	3	1	31
Math probability/stat(19)	24	20	44	9	8	12	18	12	15	22	21	31	31	179
Number theory	8	15	23	3	5	6	3	2	4	2	5	1	1	32
Operations research	-	-	-	-	-	-	-	-	4	1	5	5	4	19
Topology	8	22	30	10	9	7	12	15	6	6	7	4	9	85
Mathematics, general	3	16	19	6	15	11	6	13	15	12	11	15	12	116
Mathematics, other	5	13	18	1	3	5	7	9	6	3	10	11	1	56
COMPUTER & INFO SCI	-	-	-	-	-	-	1	-	-	-	5	11	27	44
Computer sciences	-	-	-	-	-	-	1	-	-	-	5	11	27	44
Information sci/systems(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

	Year of doctorate												
Sex and Subfield	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
FEMALE													
TOTAL, S&E	3,884	4,116	4,270	4,624	4,704	4,812	5,084	5,234	5,577	6,008	48,313	6,295	6,757
TOTAL, SCIENCES	3,794	4,017	4,146	4,500	4,553	4,614	4,859	4,992	5,291	5,633	46,399	5,880	6,305
PHYSICAL SCIENCES	322	309	357	371	399	464	505	526	557	617	4,427	653	659
Physics/astronomy	67	73	84	74	79	102	109	120	130	118	956	150	152
Acoustics	2	2	-	1	-	3	2	-	2	-	12	2	2
Astronomy(1)	7	7	11	8	4	5	4	7	13	8	74	13	7
Astronomy/astrophysics(1)	-	-	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	6	4	5	7	8	6	5	6	3	9	59	7	6
Atomic/molecular	-	8	7	6	3	6	6	4	8	8	56	7	4
Electron(2)	-	-	-	-	-	1	-	-	-	-	1	-	-
Electromagnetism(3)	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	5	8	4	3	8	8	11	15	16	10	88	14	20
Fluids	-	3	2	2	1	1	2	-	-	1	12	1	-
Mechanics(4)	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(5)	6	3	6	6	8	7	8	4	6	8	62	5	7
Optics	2	1	2	2	3	9	9	5	6	7	46	5	13
Plasma	2	2	3	2	3	3	3	5	4	4	31	2	2
Polymer(6)	-	-	-	-	-	3	3	3	-	1	10	3	3
Solid state	14	20	19	21	18	19	29	24	35	23	222	35	41
Theoretical physics(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
Thermal(8)	-	-	-	-	-	-	-	-	-	-	-	-	-
Physics, general	9	10	13	9	12	10	18	31	25	19	156	33	29
Physics, other	14	5	12	7	11	21	9	16	12	20	127	23	18
Chemistry	255	236	273	297	320	362	396	406	427	499	3,471	503	507
Agricultural/food	-	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	23	30	27	46	32	62	46	72	60	63	461	68	82
Inorganic	32	35	42	38	50	47	62	59	66	74	505	60	73
Nuclear	1	-	3	3	3	1	2	-	-	-	13	2	4
Organic	74	61	78	70	73	79	96	88	89	105	813	104	108
Pharmaceutical	15	5	11	16	15	15	17	16	19	21	150	20	26
Physical	56	51	49	61	63	70	71	59	71	87	638	76	86
Polymer	5	5	5	12	12	14	12	13	12	15	105	13	24
Theoretical	7	6	6	7	5	7	6	17	9	9	79	14	7
Chemistry, general	27	25	29	23	40	45	52	53	73	91	458	128	70
Chemistry, other	15	18	23	21	27	22	32	29	28	34	249	18	27
EARTH, ATMOS, OCEAN SCI	64	56	103	97	106	111	100	114	145	150	1,046	149	185
Applied geo, geo eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	-	-	2	-	2	-	1	1	1	-	7	3	-
Atmos/meteorol sci, gen(6)	-	-	-	1	1	-	-	4	1	3	10	5	2
Atmos/meteorol sci, other	4	1	1	3	3	-	1	3	1	3	20	1	1
Atmospheric dynamics	3	1	3	1	2	1	2	3	2	2	20	4	3
Atmospheric phys/chem	1	1	-	1	-	1	3	4	-	2	13	1	2
Environmental sciences(10)	6	11	11	11	9	6	8	6	16	20	104	11	13
Geochemistry(11)	6	5	8	9	7	11	7	9	7	13	82	9	19
Geology(12)	-	-	-	17	22	21	23	25	36	35	179	32	34
Structural geology(12)	1	1	6	-	-	-	-	-	-	-	8	-	-
Geomorph/glacial geology	2	2	6	2	1	1	2	2	3	3	24	1	2
Geophysics/seismology(13)	2	6	6	8	7	13	18	11	8	11	90	15	17
Geophysics(13)	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	3	1	3	1	2	1	1	5	5	2	24	1	2
Marine sciences(6)	-	-	-	7	6	2	3	3	9	6	36	7	2
Marine sciences, other(15)	5	2	9	-	-	-	-	-	-	-	16	-	-
Meteorology(16)	-	-	-	-	2	2	2	-	7	-	13	3	7
Mineral, petrol, geochem(11)	-	-	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	4	5	8	6	6	10	4	8	3	5	59	4	15
Oceanography	10	7	14	18	21	21	8	13	17	20	149	24	23
Paleontology	5	1	7	2	6	5	7	5	3	4	45	2	7
Stratigraphy, sediment	5	7	8	4	2	5	-	2	8	6	47	5	8
Geological sciences, gen(17)	-	-	-	2	3	5	1	3	2	2	18	5	11
Geological sciences, oth(17)	-	-	-	2	4	3	4	5	6	11	35	8	10
Earth sciences, general(17)	4	3	5	-	-	-	-	-	-	-	12	-	-
Earth sciences, other(17)	3	2	6	-	-	-	-	-	-	-	11	-	-
Physical sciences, other(6)	-	-	-	2	-	3	5	2	10	2	24	8	7
MATHEMATICS	95	112	96	113	115	106	121	125	121	155	1,159	158	194
Algebra	15	14	12	8	13	6	18	10	10	10	116	6	16
Analysis/funct analysis(18)	8	8	15	8	13	10	11	6	15	20	114	15	21
Applied mathematics	9	24	10	21	16	19	20	29	17	28	193	34	27
Computing theory	-	2	-	2	1	1	-	4	3	1	14	1	3
Geometry	2	1	2	6	6	2	1	3	4	7	34	8	5
Logic	2	1	-	2	1	4	3	2	2	5	22	3	1
Math probability/stat(19)	26	32	29	27	31	32	27	36	31	38	309	31	56
Number theory	3	1	4	4	4	2	1	2	5	5	31	1	8
Operations research	5	4	5	5	1	6	4	1	3	4	38	2	4
Topology	7	11	5	9	10	4	6	3	3	8	66	11	18
Mathematics, general	12	8	7	8	11	12	20	22	20	17	137	32	26
Mathematics, other	6	6	7	13	8	8	10	7	8	12	85	14	9
COMPUTER & INFO SCI	21	26	20	36	37	33	48	65	56	108	450	110	116
Computer sciences	21	26	20	33	24	20	39	51	39	69	342	85	96
Information sci/systems(6)	-	-	-	3	13	13	9	14	17	39	108	25	20

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

	Year of doctorate													
Sex and Subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
FEMALE														
AGRIC & BIOL SCI	925	2,010	2,935	538	660	673	789	780	849	853	843	958	1,031	7,974
Agricultural sciences	30	51	81	23	29	30	31	41	43	50	56	65	80	448
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agronomy	3	3	6	2	5	4	2	2	2	3	3	8	9	40
Animal breeding/genetics(21)	9	11	20	1	2	1	1	-	-	1	1	-	1	8
Animal nutrition(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sci/nutrition(22)	-	1	1	-	-	2	4	9	9	8	4	8	8	52
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sciences, other(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish/wildlife(23)	-	1	1	2	-	1	2	2	1	2	2	2	2	16
Fisheries science(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife management(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences(24)	-	1	1	4	11	8	10	19	17	21	25	25	22	162
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry science(25)	-	1	1	-	-	-	-	-	2	-	3	3	5	13
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest engineering(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horticulture science	5	8	13	4	2	3	1	2	2	4	4	1	9	32
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phytopathology(26)	12	17	29	5	3	5	8	5	5	5	11	6	19	72
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences(28)	-	-	-	1	3	2	2	1	-	2	1	5	3	20
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agriculture, general	-	1	1	-	-	-	-	-	-	1	1	2	-	4
Agriculture, other	1	7	8	4	3	4	1	1	5	3	1	5	2	29
Biological sciences	895	1,959	2,854	515	631	643	758	739	806	803	787	893	951	7,526
Anatomy	40	83	123	26	26	43	31	24	25	35	23	42	48	323
Biochemistry	230	484	714	97	121	105	129	149	147	141	135	146	158	1,328
Biometrics/biostat	8	16	24	8	7	7	4	7	11	8	13	9	11	85
Biophysics	14	36	50	10	10	16	8	14	12	20	16	22	14	142
Botany, other(29)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Botany(29)	75	118	193	31	31	31	50	28	33	39	32	46	38	359
Cell biology(30)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cytology(30)	16	59	75	17	26	18	19	14	10	14	12	9	11	150
Devel bio/embryology(31)	12	57	69	13	11	8	10	7	9	1	7	4	7	77
Ecology	6	12	18	6	11	12	16	16	19	19	19	20	25	163
Endocrinology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Entomology	12	46	58	8	12	9	16	13	8	8	18	12	11	115
Human/animal genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Genetics(32)	56	104	160	34	28	39	24	31	49	44	45	44	52	390
Human/animal pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pathology(33)	5	13	18	-	6	10	6	8	8	23	16	29	20	126
Human/animal pharmacol	26	72	98	17	22	23	27	33	26	25	41	46	35	295
Human/animal physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal physiology(34)	54	188	242	42	58	52	67	54	60	53	56	58	76	576
Animal/plant physiol(34)	32	-	32	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	14	39	53	8	11	7	20	11	11	14	11	5	13	111
Hydrobiology	1	3	4	-	3	2	1	-	2	1	1	1	3	14
Immunology	-	-	-	-	-	6	12	17	21	30	33	29	48	196
Microbiology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bacteriology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Microbiology/bacteriol(35)	147	326	473	74	74	90	92	106	98	93	86	101	118	932
Molecular biology	-	19	19	25	24	52	30	45	54	43	32	54	33	392
Neurosciences	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutritional sciences(36)	7	-	7	-	-	-	-	-	-	44	45	56	68	213
Parasitology	-	-	-	-	-	-	5	4	3	2	1	1	5	21
Toxicology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology, other(37)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology(37)	117	194	311	31	56	44	67	43	63	43	50	48	59	504
Biological sci, general	7	39	46	25	47	23	46	56	53	57	54	64	50	475
Biological sci, other	16	51	67	43	47	46	78	59	84	46	41	47	48	539

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

	Year of doctorate												
Sex and Subfield	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
FEMALE													
AGRIC & BIOL SCI	1,150	1,221	1,292	1,366	1,348	1,409	1,452	1,531	1,691	1,770	14,230	1,863	1,968
Agricultural sciences	97	134	151	133	133	171	172	171	186	228	1,576	247	209
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	1	1	1	-
Agronomy	10	15	16	11	12	19	15	17	19	20	154	21	11
Animal breeding/genetics(21)	2	-	3	4	5	8	4	3	2	3	34	3	2
Animal nutrition(22)	-	-	-	6	7	13	13	13	12	15	79	13	10
Animal sci/nutrition(22)	13	17	17	-	-	-	-	-	-	-	47	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	1	1	2	2	4
Poultry science(22)	-	-	-	-	-	-	-	-	2	2	4	3	1
Animal sciences, other(22)	-	-	-	9	15	13	16	16	13	25	107	11	19
Fish/wildlife(23)	7	9	7	-	-	-	-	-	-	-	23	-	-
Fisheries science(23)	-	-	-	6	5	5	9	-	8	5	38	6	4
Wildlife management(23)	-	-	-	1	3	1	2	1	-	-	8	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	8	10	18	6	8
Food sciences(24)	24	28	30	38	32	33	40	48	3	-	276	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	1	1	2	2	2
Food sciences, other(24)	-	-	-	-	-	-	-	-	36	53	89	54	46
Forestry science(25)	6	6	4	4	5	15	17	5	2	-	64	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	3	3	6	8	3
Forest engineering(25)	-	-	-	-	-	-	-	-	-	-	-	-	1
Forest management(25)	-	-	-	-	-	-	-	-	2	2	4	1	4
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	2
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	1	1	3	3
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	6	8	14	10	5
Horticulture science	8	17	19	9	21	11	12	16	16	19	148	27	19
Plant breeding/genetics(26)	-	-	-	13	8	14	13	11	12	13	84	20	10
Plant pathology(26)	-	-	-	19	8	24	14	22	12	24	123	25	26
Phytopathology(26)	14	21	27	-	-	-	-	-	-	-	62	-	-
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	-	-	1	-
Plant sciences, other(26)	-	-	-	1	2	3	5	3	3	4	21	4	4
Soil sciences(28)	6	7	15	7	4	7	10	7	1	-	64	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	7	7	14	6	6
Soil sciences, other(28)	-	-	-	-	-	-	-	-	11	7	18	8	11
Agriculture, general	-	1	1	-	-	-	-	-	3	2	7	-	1
Agriculture, other	7	13	12	5	6	5	2	9	3	2	64	12	7
Biological sciences	1,053	1,087	1,141	1,233	1,215	1,238	1,280	1,360	1,505	1,542	12,654	1,616	1,759
Anatomy	45	48	62	37	37	45	27	42	32	27	402	29	31
Biochemistry	188	189	166	195	191	184	194	199	203	268	1,977	237	285
Biometrics/biostat	13	12	18	22	18	12	10	14	15	20	154	18	29
Biophysics	18	10	13	16	21	7	13	22	21	21	162	23	26
Botany, other(29)	-	-	-	39	38	34	42	36	41	52	282	33	38
Botany(29)	38	42	42	-	-	-	-	-	-	-	122	-	-
Cell biology(30)	-	-	-	41	48	39	44	55	55	57	339	69	63
Cytology(30)	13	14	18	-	-	-	-	-	-	-	45	-	-
Devel bio/embryology(31)	7	10	3	7	8	5	7	-	3	4	54	12	20
Ecology	36	52	42	37	45	52	40	38	47	36	425	52	60
Endocrinology(6)	-	-	-	14	11	4	6	11	10	10	66	11	16
Entomology	26	13	23	20	29	34	22	25	26	23	241	26	35
Human/animal genetics(32)	-	-	-	43	39	49	41	54	57	57	340	73	71
Plant genetics(32)	-	-	-	5	4	8	10	7	6	3	43	7	5
Genetics(32)	55	62	65	-	-	-	-	-	-	-	182	-	-
Human/animal pathology(33)	-	-	-	24	23	35	33	48	43	41	247	32	45
Plant pathology(33)	-	-	-	8	5	8	5	10	9	8	53	12	12
Pathology(33)	28	27	26	-	-	-	-	-	-	-	81	-	-
Human/animal pharmacol	60	69	77	71	60	76	81	86	92	99	771	91	90
Human/animal physiol(34)	-	-	-	68	59	70	77	76	89	105	544	98	102
Animal physiology(34)	68	80	76	-	-	-	-	-	-	-	224	-	-
Animal/plant physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	9	11	13	24	23	12	18	15	23	15	163	19	19
Hydrobiology	-	-	-	-	-	-	-	-	-	-	-	-	-
Immunology	41	60	58	66	52	54	51	53	91	61	587	72	76
Microbiology(35)	-	-	-	117	121	113	118	103	120	124	816	116	150
Bacteriology(35)	-	-	-	4	4	4	2	6	2	2	24	4	5
Microbiology/bacteriol(35)	118	103	91	-	-	-	-	-	-	-	312	-	-
Molecular biology	60	69	81	76	103	95	115	116	130	153	998	152	182
Neurosciences	-	-	38	49	43	58	39	48	60	63	398	76	88
Nutritional sciences(36)	62	59	71	72	68	72	86	97	89	91	767	88	71
Parasitology	7	5	2	-	4	2	3	5	8	5	41	4	7
Toxicology(6)	-	-	-	16	25	24	33	34	30	39	201	36	30
Zoology, other(37)	-	-	-	63	42	46	44	44	43	35	317	37	39
Zoology(37)	46	47	45	-	-	-	-	-	-	-	138	-	-
Biological sci, general	62	59	62	60	56	62	73	81	97	77	689	142	112
Biological sci, other	53	46	49	39	38	34	46	35	63	46	449	47	52

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Sex and Subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate 1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
FEMALE														
SOCIAL SCIENCES	501	1,013	1,514	327	444	471	576	664	728	776	721	811	827	6,345
Agricultural economics	-	-	-	-	2	3	6	5	3	4	6	5	11	45
Anthropology	66	152	218	59	65	72	97	125	138	157	136	163	168	1,180
Area studies	4	12	16	6	11	7	2	9	8	8	3	10	9	73
Criminology(38)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Demography(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Econometrics	2	7	9	1	1	1	-	1	2	1	2	2	1	12
Economics	89	156	245	51	54	57	57	74	84	92	71	91	104	735
Geography	20	18	38	3	16	12	17	13	10	16	27	31	23	168
History of science(39)	-	-	-	-	7	3	10	9	6	14	5	7	6	67
International relations	33	41	74	6	14	10	26	8	21	12	11	10	18	136
Linguistics	46	122	168	34	41	48	66	70	70	70	73	65	78	615
Pol sci/government(40)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Political science(40)	-	-	-	-	-	-	-	1	-	106	102	118	95	422
Pol sci, public admin(40)	79	180	259	56	83	84	93	115	121	8	-	-	-	560
Public policy studies(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sociology	155	290	445	93	116	138	154	185	210	223	237	224	232	1,812
Statistics	-	9	9	8	4	5	6	2	6	5	5	14	4	59
Urban studies(41)	-	-	-	-	-	7	7	5	8	14	14	23	15	93
Social sciences, general	2	5	7	1	9	3	5	10	14	10	6	10	17	85
Social sciences, other	5	21	26	9	21	21	30	32	27	36	23	38	46	283
PSYCHOLOGY	821	1,448	2,269	444	530	609	717	801	873	946	1,088	1,127	1,260	8,395
Clinical	328	513	841	151	167	163	220	233	260	275	341	418	424	2,652
Cognitive(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Comparative(42)	5	12	17	3	1	4	3	4	7	9	8	9	10	58
Counseling(43)	51	80	131	27	36	44	60	63	69	91	90	92	138	710
Developmental(44)	51	114	165	35	58	69	77	83	99	102	119	103	135	880
Educational	67	89	156	22	24	45	35	39	44	45	60	55	73	442
Exper, compar, physiol(42)	59	-	59	-	-	-	-	-	-	-	-	-	-	-
Experimental(42)	74	213	287	70	81	73	85	84	88	88	99	85	82	835
Indust/organizational(45)	5	13	18	6	4	2	6	7	10	10	13	15	20	93
Physiological(42)	12	63	75	20	31	26	33	37	31	38	32	36	27	311
Quantitative(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Personality	25	35	60	10	14	22	17	16	15	31	29	13	23	190
Psychometrics	8	18	26	2	5	3	5	8	1	1	4	4	6	39
School	16	31	47	13	19	32	41	38	42	66	68	58	60	437
Social	91	140	231	34	43	46	54	59	66	61	69	76	90	598
Psychology, general	24	94	118	27	28	38	41	73	88	77	98	105	87	662
Psychology, other	5	33	38	24	19	42	40	57	53	52	58	58	85	488
TOTAL, ENGINEERING	31	46	77	16	16	22	46	34	52	55	74	53	62	430
Aerospace,aero/astronaut(46)	5	1	6	2	3	-	2	3	2	-	3	1	-	16
Agricultural	-	-	-	-	-	-	1	-	1	-	-	-	-	2
Bioengineering/biomed(47)	-	-	-	-	-	3	1	1	5	2	-	-	1	13
Ceramic	1	2	3	-	-	1	1	2	-	-	3	-	1	8
Chemical	6	11	17	2	3	2	4	8	4	7	9	5	8	52
Civil	4	3	7	1	1	1	6	3	3	4	7	6	2	34
Communications(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Computer	-	-	-	-	-	-	-	-	7	8	9	5	3	32
Electrical/electronics(48)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical(48)	6	5	11	1	3	4	6	3	9	7	9	11	7	60
Electronics(48)	2	1	3	2	1	1	1	-	-	-	3	1	1	10
Engineering mechanics	2	5	7	1	-	-	4	2	2	1	3	1	1	15
Engineering physics(49)	1	1	2	1	-	1	1	1	-	-	-	-	1	5
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Environmental health eng(50)	1	1	2	-	-	1	3	-	2	2	1	2	2	13
Fuel tech/petro eng(9)	-	-	-	1	1	-	-	1	-	1	-	-	-	4
Industrial	-	4	4	-	2	-	2	1	2	2	5	2	5	21
Materials science	-	-	-	-	-	-	3	-	5	6	6	3	7	30
Mechanical	-	2	2	1	-	2	3	5	2	3	3	2	4	25
Metallurgical(51)	1	6	7	1	1	2	3	1	-	2	1	2	-	13
Mining/mineral(52)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(49)	-	-	-	1	-	1	1	1	3	2	2	4	3	18
Ocean(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operations research	-	-	-	-	-	1	3	1	-	3	4	2	6	20
Petroleum(53)	-	-	-	-	-	-	-	-	1	-	1	-	1	3
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Systems(54)	-	-	-	-	-	-	-	-	-	1	-	1	5	7
Engineering, general	-	1	1	-	-	-	-	-	-	-	2	1	1	4
Engineering, other	2	3	5	2	1	2	1	1	4	4	3	4	3	25
TOTAL, NON-S&E(55)	3,562	7,031	10,593	2,327	2,606	3,145	3,575	3,791	4,296	4,635	4,702	4,934	5,261	39,272
TOTAL, ALL FIELDS	6,358	12,608	18,966	3,971	4,596	5,287	6,085	6,453	7,201	7,684	7,858	8,322	8,937	66,394

See footnotes at end of table.

Table 1. Science and engineering (S&E) doctorates awarded, by sex and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

	Year of doctorate											
Sex and Subfield	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
FEMALE													
SOCIAL SCIENCES	831	820	840	920	917	950	1,035	936	1,045	1,036	9,330	1,040	1,199
Agricultural economics	12	13	20	18	29	21	16	23	31	25	208	27	36
Anthropology	174	152	138	175	171	181	197	181	170	148	1,687	173	209
Area studies	5	5	7	11	2	5	6	5	5	5	56	9	4
Criminology(38)	6	9	17	7	10	10	7	7	15	10	98	16	18
Demography(6)	-	-	-	12	8	9	6	7	11	10	63	11	16
Econometrics	2	1	2	4	4	2	2	4	4	2	27	3	5
Economics	102	100	98	129	120	122	163	136	163	171	1,304	170	173
Geography	17	20	19	37	21	29	39	26	33	25	266	35	33
History of science(39)	10	5	10	7	11	2	10	10	10	9	84	9	11
International relations	11	12	11	15	13	16	15	15	14	29	151	15	24
Linguistics	75	78	90	86	82	91	96	106	83	106	893	90	110
Pol sci/government(40)	-	-	-	83	97	107	117	111	96	107	718	108	118
Political science(40)	102	96	106	-	-	-	-	-	-	-	304	-	-
Pol sci, public admin(40)	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	26	20	24	34	30	25	28	187	25	38
Sociology	231	242	214	216	226	234	215	168	238	222	2,206	207	231
Statistics	9	7	5	5	11	14	17	13	9	20	110	12	10
Urban studies(41)	18	17	25	22	21	21	16	22	31	23	216	21	21
Social sciences, general	13	5	14	3	6	8	13	6	13	9	90	9	17
Social sciences, other	44	58	64	64	65	54	66	66	94	87	662	100	125
PSYCHOLOGY	1,311	1,473	1,438	1,597	1,631	1,541	1,598	1,695	1,676	1,797	15,757	1,907	1,984
Clinical	485	557	517	594	598	591	602	667	611	711	5,933	782	840
Cognitive(6)	-	-	-	31	37	23	33	41	34	33	232	35	46
Comparative(42)	2	3	6	4	9	2	6	6	4	1	43	3	5
Counseling(43)	140	160	156	199	230	215	237	254	261	284	2,136	281	306
Developmental(44)	121	121	125	148	156	112	117	139	131	116	1,286	112	120
Educational	61	77	75	75	110	78	58	50	65	60	709	69	64
Exper, compar, physiol(42)	-	-	-	-	-	-	-	-	-	-	-	-	-
Experimental(42)	98	93	97	81	70	65	64	54	61	70	753	49	64
Indust/organizational(45)	16	22	23	30	40	29	52	49	54	49	364	53	76
Physiological(42)	24	34	23	27	20	35	30	32	45	33	303	28	21
Quantitative(6)	-	-	-	4	5	4	8	7	5	6	39	3	2
Personality	18	26	17	9	12	9	9	11	8	17	136	10	4
Psychometrics	10	10	1	8	3	3	7	3	6	3	54	4	3
School	83	73	86	72	50	54	59	53	66	69	665	53	57
Social	78	76	85	103	82	94	79	72	75	68	812	92	86
Psychology, general	93	133	105	133	134	125	149	170	192	200	1,434	231	182
Psychology, other	82	88	122	79	75	102	88	87	58	77	858	102	108
TOTAL, ENGINEERING	90	99	124	124	151	198	225	242	286	375	1,914	415	452
Aerospace,aero/astronaut(46)	1	-	1	2	2	5	1	10	9	8	39	4	7
Agricultural	1	2	2	1	1	3	1	3	3	6	23	7	8
Bioengineering/biomed(47)	3	3	6	8	9	11	9	15	18	26	108	23	27
Ceramic	2	1	1	3	2	-	3	4	3	4	23	11	10
Chemical	14	11	17	22	25	35	53	56	60	74	367	71	72
Civil	6	6	12	12	19	18	19	17	25	45	179	39	30
Communications(6)	-	-	-	-	-	2	-	-	3	1	6	2	2
Computer	5	8	3	6	1	5	5	2	7	12	54	11	9
Electrical/electronics(48)	-	-	-	6	14	27	33	30	38	54	202	71	66
Electrical(48)	11	14	17	1	-	1	-	-	-	-	44	-	-
Electronics(48)	1	-	2	-	-	-	-	-	-	-	3	-	-
Engineering mechanics	3	1	5	2	9	4	4	3	3	7	41	9	7
Engineering physics(49)	-	2	-	-	-	1	-	1	-	-	4	1	2
Engineering science(6)	-	-	-	1	-	-	3	-	3	3	10	6	2
Environmental health eng(50)	5	4	5	1	6	2	2	1	5	9	40	10	9
Fuel tech/petro eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	7	6	6	6	16	6	14	13	19	18	111	25	17
Materials science	5	11	13	22	17	23	18	36	25	35	205	31	56
Mechanical	4	5	12	6	6	22	14	14	26	22	131	29	50
Metallurgical(51)	7	5	3	5	7	9	3	5	5	6	55	7	8
Mining/mineral(52)	-	-	1	1	-	-	2	1	1	4	10	2	6
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	-	1	1	1	-
Nuclear(49)	1	6	7	5	6	3	6	2	4	7	47	9	4
Ocean(6)	-	-	-	-	-	-	-	1	-	2	3	2	1
Operations research	5	7	5	5	-	8	11	7	4	14	66	6	22
Petroleum(53)	-	-	2	-	-	-	1	-	2	1	6	-	1
Polymer(6)	-	-	-	1	2	6	7	4	3	5	28	7	7
Systems(54)	3	4	2	3	1	4	2	3	7	3	32	3	4
Engineering, general	5	1	1	1	-	-	5	8	2	2	25	10	6
Engineering, other	1	2	1	4	8	3	9	6	11	6	51	18	19
TOTAL, NON-S&E(55)	5,524	5,776	5,823	5,909	5,995	5,932	6,220	6,191	6,235	6,499	60,104	6,807	7,008
TOTAL, ALL FIELDS	9,408	9,892	10,093	10,533	10,699	10,744	11,304	11,425	11,812	12,507	108,417	13,102	13,765

See footnotes at end of table.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

FOOTNOTES

[A hyphen (-) in a data column signifies that the subfield was not identified separately in the questionnaire for that year (e.g., the subfield "polymer chemistry" was introduced in 1973), or that this subfield was included in the questionnaire for that year but no doctorates were reported.]

(1) "Astronomy" and "astrophysics" were combined until 1969 when separate subfields were introduced.

(2) This subfield was introduced in 1983 and deleted in 1991.

(3) This subfield was originally called "electricity and magnetism." In 1966 the name was changed to "electromagnetism." In 1980 this subfield was deleted from the taxonomy.

(4) "Thermal physics" was originally shown as one subfield, "mechanics and heat." In 1960 this subfield was separated into "mechanics" and "heat (thermal)." The latter was subsequently changed to "thermal phenomena" in 1963 and then to "thermal physics" in 1967. "Mechanics" was deleted from the taxonomy in 1977. Also see footnote 8.

(5) This subfield was originally named "nuclear structure." It was changed to "nuclear" in 1983.

(6) This subfield was introduced in 1983.

(7) "Theoretical physics" was deleted in 1962, but a few degrees were reported for 1962 and 1963 because outdated forms were used by some institutions.

(8) "Thermal physics" was added in 1960 under the original name of "heat (thermal)." It was deleted in 1982. See footnote 4 for more information.

(9) In 1960 "geophysical engineering" and "geological engineering" were merged into "geo-engineering." "Geo-engineering" became "applied geology, geological engineering, economic geology, and petroleum engineering" in 1962, and was split into "applied geology, geological engineering, and economic geology" and "fuel technology and petroleum engineering" in 1969. "Fuel technology and petroleum engineering" was discontinued in this major group, and in 1983 "applied geology, geological engineering, and economic geology" was replaced by "applied geology." "Applied geology" was deleted in 1991. Also see footnote 53.

(10) "Environmental sciences, general" and "environmental sciences, other" were deleted in 1983, and "environmental sciences" was introduced.

(11) "Mineralogy, petrology, and geochemistry" was split into "geochemistry" and "mineralogy, petrology" in 1969.

(12) "Structural geology" was deleted in 1983, and "geology" was introduced.

(13) "Geophysics" was replaced by "geophysics, solid earth" in 1976. It was changed to "geophysics and seismology" in 1983.

(14) This subfield was originally listed as "hydrology." "Water resources" was added to the title in 1977.

(15) "Marine sciences, other" was introduced in 1977 and deleted in 1983.

(16) "Meteorology" was deleted in 1976 and restored in 1983.

FOOTNOTES (continued)

(17) "Earth sciences, general" and "earth sciences, other" were deleted in 1983, and "geological sciences, general" and "geological sciences, other" were introduced.

(18) This subfield was specified as "analysis" through 1967. "Functional analysis" was added in 1968.

(19) "Math statistics" was removed from the name of this subfield in 1969 but was restored in 1972.

(20) "Agricultural business and management" was introduced in 1988.

(21) This subfield was previously called "animal husbandry." It was changed to "animal breeding and genetics" in 1983.

(22) The "animal sciences" subfield was introduced in 1972. The name was changed to "animal science and animal nutrition" in 1977. The field was separated into "animal nutrition" and "animal sciences, other" in 1983. In 1988 "dairy science" and "poultry science" were introduced.

(23) "Fish and wildlife" was split into two separate subfields in 1983. In 1988 "wildlife management" was discontinued, and "wildlife/range management" was introduced.

(24) This subfield was introduced as "food science and technology" in 1969. The name was changed to "food sciences" in 1983. In 1988 the field was separated into "food distribution," "food engineering," and "food sciences, other."

(25) In 1988 "forestry science" was separated into "forestry biology," "forest engineering," "forest management," "wood science," "renewable natural resources," and "forestry and related sciences, other."

(26) "Phytopathology" was discontinued in 1983 and the subfields "plant breeding and genetics," "plant pathology," and "plant sciences, other" were introduced.

(27) "Plant protection-pest management" was introduced in 1988 and deleted in 1991.

(28) This subfield was changed from "soils and soil science" to "soil sciences" in 1983. In 1988 "soil sciences" was separated into "soil chemistry/microbiology" and "soil sciences, other."

(29) The subfield "botany" was discontinued in 1983, and "botany, other" was introduced.

(30) "Cytology" was introduced in 1962 and discontinued in 1983. "Cell biology" was introduced in 1983.

(31) "Embryology" was changed to "developmental biology/embryology" in 1990.

(32) "Genetics" was split into "plant genetics" and "human and animal genetics" in 1983.

(33) "Pathology" was split into "plant pathology" and "human and animal pathology" in 1983.

(34) In 1962 "animal and plant physiology" was separated into "animal physiology" and "plant physiology." In 1983 "animal physiology" was replaced by "human and animal physiology."

(35) This subfield was originally called "microbiology." "Bacteriology" was added in 1970. In 1983 they were split into two separate subfields.

FOOTNOTES (continued)

(36) The subfield "nutrition" was discontinued in 1963. "Nutrition and dietetics" was introduced in 1976 and was replaced by "nutritional sciences" in 1983.

(37) The subfield "zoology" was discontinued in 1983, and "zoology, other" was introduced.

(38) This subfield was introduced in 1980 as "criminology and criminal justice." The name was changed to "criminology" in 1983.

(39) The subfield "history and philosophy of science" was introduced in 1971. The name was changed to "history of science" in 1983.

(40) "Political science, public administration" was split into two separate subfields in 1976. "Public administration" was not included in science and engineering fields after 1976. In 1983 "political science and government" replaced "political science."

(41) This subfield was changed from "urban and regional planning" to "urban studies" in 1983.

(42) "Experimental, comparative, and physiological psychology" was split into three separate subfields in 1962.

(43) This subfield was changed from "counseling and guidance" to "counseling" in 1983.

(44) This subfield was changed from "developmental and gerontological" to "developmental" in 1983.

(45) This subfield was changed from "industrial and personnel" to "industrial and organizational" in 1983.

(46) This subfield was originally named "aeronautical engineering." In 1966 the term "astronautical" was added, and in 1983 the term "aerospace" was added.

(47) "Biomedical" was introduced in 1969, and "bioengineering" was added in 1983.

(48) "Electrical engineering" and "electronics engineering" were merged in 1983.

(49) In 1961 "nuclear engineering" was deleted from the taxonomy, and previous cases were added to "engineering physics." In 1969 "nuclear engineering" was reinstated in the taxonomy.

(50) "Environmental health engineering" was called "sanitary and environmental engineering" prior to 1983.

(51) This subfield was originally specified as "metallurgy and metallurgical engineering." The term "physical" was introduced in 1967. It was changed to "metallurgical" in 1983.

(52) "Mining engineering" was deleted in 1961 but was restored to the taxonomy in 1969. The name was changed to "mining and mineral" in 1983.

(53) The subfield "fuel technology and petroleum engineering" was added to the engineering section of the taxonomy in 1973. The name was changed to "petroleum" in 1983. Also see footnote 9.

(54) This subfield was introduced as "systems design and systems science" in 1975. It was changed to "systems" in 1983.

(55) Non-S&E doctorates awarded include those whose field of specialization is unknown.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

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Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69

Citizenship status and subfield	Year of doctorate													
	Total 1960-1964	Total 1965-1969	Total 1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
U.S. CITIZENS														
TOTAL, S&E	31,539	53,028	84,567	14,567	15,465	15,144	14,971	13,750	14,288	14,082	13,636	13,331	13,524	142,758
TOTAL, SCIENCES	26,947	43,335	70,282	12,049	13,039	12,810	12,826	11,996	12,571	12,524	12,163	12,070	12,230	124,278
PHYSICAL SCIENCES	8,120	12,347	20,467	3,211	3,209	2,889	2,644	2,339	2,317	2,175	2,071	1,978	2,040	24,873
Physics/astronomy	2,934	5,131	8,065	1,337	1,372	1,278	1,188	956	925	911	833	804	800	10,404
Acoustics	42	41	83	23	14	17	13	12	11	9	9	13	11	132
Astronomy(1)	-	32	32	40	50	54	52	51	50	67	59	62	48	533
Astronomy/astrophysics(1)	116	250	366	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	-	60	60	50	50	58	58	67	55	61	47	61	49	556
Atomic/molecular	361	542	903	133	107	130	99	99	101	94	86	68	64	981
Electron(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electromagnetism(3)	89	100	189	15	14	10	10	6	8	8	7	9	4	91
Elementary particle	438	814	1,252	196	216	145	159	104	96	94	100	106	92	1,308
Fluids	77	142	219	15	15	24	20	13	16	16	11	9	12	151
Mechanics(4)	18	32	50	5	6	5	4	2	2	3	-	-	-	27
Nuclear(5)	555	748	1,303	176	186	195	135	108	93	69	70	57	78	1,167
Optics	30	57	87	27	20	28	26	18	22	42	26	24	34	267
Plasma	-	53	53	66	68	69	57	44	38	60	54	55	44	555
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid state	711	1,451	2,162	349	365	305	311	243	224	203	179	177	170	2,526
Theoretical physics(7)	210	-	210	-	-	-	-	-	-	-	-	-	-	-
Thermal(8)	25	81	106	15	14	12	10	10	8	3	3	7	6	88
Physics, general	76	271	347	98	100	86	120	81	98	90	98	85	105	961
Physics, other	186	457	643	129	147	140	114	98	103	92	84	71	83	1,061
Chemistry	5,186	7,216	12,402	1,874	1,837	1,611	1,456	1,383	1,392	1,264	1,238	1,174	1,240	14,469
Agricultural/food	113	137	250	33	35	10	3	10	3	9	5	3	9	120
Analytical	376	574	950	141	159	133	115	127	123	133	157	156	177	1,421
Inorganic	514	910	1,424	277	273	249	238	177	206	196	169	171	174	2,130
Nuclear	111	108	219	28	29	17	21	24	20	19	20	11	11	200
Organic	2,235	3,078	5,313	745	700	614	531	533	483	395	397	365	378	5,141
Pharmaceutical	153	167	320	35	45	27	36	48	47	34	32	28	29	361
Physical	1,489	1,908	3,397	461	419	380	351	296	313	282	267	238	268	3,275
Polymer	-	-	-	-	-	-	8	15	28	26	37	34	41	189
Theoretical	84	154	238	55	48	59	41	41	35	42	28	38	41	428
Chemistry, general	49	66	115	48	59	57	63	76	87	81	81	79	70	701
Chemistry, other	62	114	176	51	70	65	49	36	47	47	45	51	42	503
EARTH, ATMOS, OCEAN SCI	1,142	1,701	2,843	396	459	469	502	455	491	507	558	518	531	4,886
Applied geo, geo eng(9)	85	79	164	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	-	17	17	13	26	31	17	17	14	16	17	13	16	180
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atmos/meteorol sci, other	-	-	-	-	-	-	-	-	-	13	32	25	29	99
Atmospheric dynamics	-	-	-	-	-	-	-	-	-	11	25	18	16	70
Atmospheric phys/chem	-	-	-	-	-	-	-	-	-	13	14	17	14	58
Environmental sciences(10)	-	-	-	-	-	14	50	46	65	53	46	38	44	356
Geochemistry(11)	-	27	27	31	42	27	32	37	37	39	47	46	49	387
Geology(12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Structural geology(12)	58	117	175	10	27	19	18	12	15	21	19	26	22	189
Geomorph/glacial geology	41	62	103	15	22	18	26	19	25	28	21	22	14	210
Geophysics/seismology(13)	-	-	-	-	-	-	-	-	-	29	55	46	65	195
Geophysics(13)	98	137	235	42	51	56	49	55	60	18	-	-	-	331
Hydrology/water res(14)	10	34	44	15	21	9	20	9	16	11	15	19	16	151
Marine sciences(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marine sciences, other(15)	-	-	-	-	-	-	-	-	-	-	9	28	29	66
Meteorology(16)	80	165	245	43	51	63	45	42	30	14	-	-	-	288
Mineral, petrol, geochem(11)	311	301	612	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	-	40	40	45	40	46	36	29	30	45	54	34	31	390
Oceanography	53	179	232	62	47	71	75	67	73	73	95	84	77	724
Paleontology	117	184	301	39	29	27	42	37	38	39	26	29	34	340
Stratigraphy, sediment	263	238	501	44	61	46	46	42	41	47	32	27	27	413
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earth sciences, general(17)	12	61	73	20	22	23	27	26	23	19	33	32	30	255
Earth sciences, other(17)	14	60	74	17	20	19	19	17	24	18	18	14	18	184
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MATHEMATICS	1,697	3,570	5,267	1,018	1,009	1,030	951	876	848	748	690	619	552	8,341
Algebra	231	599	830	172	174	145	122	98	100	92	73	72	72	1,120
Analysis/funct analysis(18)	491	926	1,417	205	221	207	197	160	133	114	114	91	79	1,521
Applied mathematics	206	463	669	117	94	85	80	90	79	76	83	77	72	853
Computing theory	37	156	193	103	119	134	174	149	119	123	83	45	21	1,070
Geometry	74	105	179	32	22	26	23	26	19	16	18	18	21	221
Logic	44	113	157	31	28	33	29	18	34	26	13	19	18	249
Math probability/stat(19)	254	386	640	60	82	113	110	103	127	105	111	117	111	1,039
Number theory	69	78	147	24	25	32	27	19	19	22	28	16	16	228
Operations research	-	-	-	-	-	-	3	13	37	27	24	30	31	165
Topology	224	470	694	126	106	115	98	102	78	54	56	48	50	833
Mathematics, general	29	125	154	68	67	73	53	59	62	57	51	53	39	582
Mathematics, other	38	149	187	80	71	67	35	39	41	36	36	33	22	460
COMPUTER & INFO SCI	-	-	-	-	-	-	1	-	-	-	24	85	163	273
Computer sciences	-	-	-	-	-	-	1	-	-	-	24	85	163	273
Information sci/systems(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
U.S. CITIZENS													
TOTAL, S&E	13,410	13,544	13,292	13,403	13,250	12,947	12,869	12,819	13,217	13,312	132,063	14,010	13,923
TOTAL, SCIENCES	12,155	12,374	12,123	12,240	12,011	11,668	11,486	11,261	11,436	11,448	118,202	12,057	11,946
PHYSICAL SCIENCES	1,884	1,956	1,991	2,064	2,071	2,043	2,014	2,080	2,100	1,973	20,176	2,149	2,048
Physics/astronomy	715	721	706	709	739	698	694	699	723	675	7,079	751	737
Acoustics	19	10	7	12	14	8	12	13	12	12	119	10	7
Astronomy(1)	45	43	48	45	33	36	45	33	44	33	405	36	35
Astronomy/astrophysics(1)	-	-	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	59	53	43	56	47	46	43	39	53	45	484	56	49
Atomic/molecular	57	52	66	46	59	42	47	50	54	42	515	60	46
Electron(2)	-	-	-	1	-	2	1	6	2	1	13	-	-
Electromagnetism(3)	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	84	92	82	91	88	99	92	93	104	83	908	89	114
Fluids	10	8	7	13	9	11	3	10	10	9	90	11	10
Mechanics(4)	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(5)	53	46	37	63	54	60	50	44	53	52	512	47	39
Optics	28	37	33	26	36	35	41	35	42	45	358	44	53
Plasma	47	54	53	53	59	38	45	43	44	35	471	27	34
Polymer(6)	-	-	-	5	4	5	6	10	8	4	42	4	6
Solid state	144	181	173	153	181	155	156	161	143	158	1,605	156	169
Theoretical physics(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
Thermal(8)	5	3	-	-	-	-	-	-	-	-	8	-	-
Physics, general	88	68	76	73	81	83	71	89	74	84	787	128	87
Physics, other	76	74	81	72	74	78	82	73	80	72	762	83	88
Chemistry	1,169	1,235	1,285	1,355	1,332	1,345	1,320	1,381	1,377	1,298	13,097	1,398	1,311
Agricultural/food	-	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	156	201	163	227	185	242	209	246	238	226	2,093	225	221
Inorganic	160	162	188	184	199	203	209	188	192	192	1,877	187	178
Nuclear	12	11	13	10	11	6	15	12	5	6	101	9	13
Organic	364	396	412	393	413	366	391	377	387	365	3,864	350	341
Pharmaceutical	30	39	36	49	45	43	39	44	47	49	421	27	55
Physical	229	226	270	251	265	243	221	223	228	212	2,368	219	218
Polymer	31	27	27	38	37	48	47	57	41	43	396	45	52
Theoretical	40	26	24	36	29	41	29	38	38	28	329	39	32
Chemistry, general	90	92	86	106	86	92	95	130	131	104	1,012	255	151
Chemistry, other	57	55	66	61	62	61	65	66	70	73	636	42	50
EARTH, ATMOS, OCEAN SCI	512	472	528	483	474	442	422	425	511	529	4,798	535	584
Applied geo, geo eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	22	15	16	5	6	7	3	2	6	5	87	5	1
Atmos/meteorol sci, gen(6)	-	-	-	12	4	6	6	6	9	8	51	11	11
Atmos/meteorol sci, other	34	20	20	20	8	6	5	8	8	11	140	1	8
Atmospheric dynamics	12	22	15	9	14	13	9	11	15	9	129	11	9
Atmospheric phys/chem	16	14	17	18	8	15	14	15	10	9	136	9	10
Environmental sciences(10)	34	43	45	36	37	32	29	22	46	53	377	41	26
Geochemistry(11)	44	45	41	44	36	37	25	21	36	29	358	43	52
Geology(12)	-	-	-	82	98	80	94	80	105	126	665	130	145
Structural geology(12)	19	27	23	-	-	-	-	-	-	-	69	-	-
Geomorph/glacial geology	12	12	18	8	8	12	9	15	8	9	111	11	17
Geophysics/seismology(13)	46	54	59	50	45	59	56	38	49	58	514	54	69
Geophysics(13)	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	21	12	12	12	13	7	10	11	14	14	126	9	12
Marine sciences(6)	-	-	-	16	17	20	19	30	23	20	145	29	15
Marine sciences, other(15)	24	27	33	-	-	-	-	-	-	-	84	-	-
Meteorology(16)	-	-	-	12	23	14	14	11	20	18	112	13	17
Mineral, petrol, geochem(11)	-	-	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	45	27	37	20	27	24	14	21	15	32	262	23	30
Oceanography	74	62	79	67	60	51	55	46	52	55	601	43	61
Paleontology	20	19	24	16	32	19	12	17	22	15	196	19	20
Stratigraphy, sediment	38	37	43	20	12	17	12	20	26	19	244	24	25
Geological sciences, gen(17)	-	-	-	9	6	8	7	13	4	9	56	18	20
Geological sciences, oth(17)	-	-	-	17	17	8	11	23	25	19	120	22	24
Earth sciences, general(17)	36	25	24	-	-	-	-	-	-	-	85	-	-
Earth sciences, other(17)	15	11	22	-	-	-	-	-	-	-	48	-	-
Physical sciences, other(6)	-	-	-	10	3	7	18	15	18	11	82	19	12
MATHEMATICS	520	482	458	411	407	376	366	345	342	393	4,100	375	439
Algebra	65	37	46	37	40	32	23	31	30	28	369	20	46
Analysis/funct analysis(18)	68	71	62	45	40	53	41	39	46	49	514	42	56
Applied mathematics	73	83	72	84	71	54	77	74	66	77	731	79	86
Computing theory	11	11	5	9	7	13	4	9	8	9	86	7	15
Geometry	27	25	22	24	17	20	21	11	20	26	213	18	24
Logic	20	17	14	17	14	22	15	8	11	6	144	12	15
Math probability/stat(19)	88	101	101	87	102	71	77	63	65	81	836	54	72
Number theory	21	20	24	10	19	11	14	10	9	17	155	15	20
Operations research	24	16	19	9	15	13	12	6	17	12	143	12	9
Topology	48	44	39	33	30	24	20	31	14	21	304	34	34
Mathematics, general	43	37	30	30	33	32	41	39	36	37	358	45	33
Mathematics, other	32	20	24	26	19	31	21	24	20	30	247	37	29
COMPUTER & INFO SCI	156	168	143	180	178	189	202	243	284	338	2,081	348	379
Computer sciences	156	168	143	167	154	149	178	207	244	274	1,840	294	332
Information sci/systems(6)	-	-	-	13	24	40	24	36	40	64	241	54	47

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate 1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
U.S. CITIZENS														
AGRIC & BIOL SCI	7,529	12,165	19,694	3,359	3,643	3,527	3,556	3,210	3,473	3,497	3,396	3,522	3,674	34,857
Agricultural sciences	1,707	2,070	3,777	555	587	533	542	461	563	499	487	530	544	5,301
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agronomy	501	515	1,016	135	120	90	90	65	73	75	67	80	76	871
Animal breeding/genetics(21)	475	458	933	97	68	51	29	12	17	14	17	17	20	342
Animal nutrition(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sci/nutrition(22)	-	1	1	-	-	44	76	76	83	84	69	60	71	563
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sciences, other(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish/wildlife(23)	83	117	200	42	54	48	41	45	52	50	59	53	62	506
Fisheries science(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife management(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences(24)	-	25	25	24	37	45	40	55	47	53	52	64	62	479
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry science(25)	129	244	373	58	69	56	59	45	61	56	49	64	62	579
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest engineering(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horticulture science	168	212	380	43	48	42	33	21	51	29	39	37	49	392
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phytopathology(26)	265	283	548	70	66	56	68	56	67	52	57	59	59	610
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences(28)	-	17	17	19	24	40	51	38	58	31	32	54	30	377
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agriculture, general	5	17	22	2	-	3	4	-	1	4	-	3	1	18
Agriculture, other	81	181	262	65	101	58	51	48	53	51	46	39	52	564
Biological sciences	5,822	10,095	15,917	2,804	3,056	2,994	3,014	2,749	2,910	2,998	2,909	2,992	3,130	29,556
Anatomy	204	402	606	106	133	144	119	100	104	122	98	130	139	1,195
Biochemistry	1,180	1,929	3,109	470	517	471	502	468	503	493	499	493	501	4,917
Biometrics/biostat	48	88	136	29	35	19	26	20	32	37	39	35	36	308
Biophysics	136	382	518	92	82	88	85	92	85	91	106	88	107	916
Botany, other(29)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Botany(29)	455	677	1,132	153	180	163	190	136	136	158	144	124	124	1,508
Cell biology(30)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cytology(30)	52	152	204	49	50	34	31	38	32	40	34	29	37	374
Devel bio/embryology(31)	42	156	198	39	34	33	27	20	25	11	19	15	14	237
Ecology	167	264	431	100	113	121	118	133	128	132	150	161	165	1,321
Endocrinology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Entomology	361	555	916	141	177	151	135	126	132	115	116	111	119	1,323
Human/animal genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Genetics(32)	292	430	722	110	112	116	93	82	122	105	118	104	119	1,081
Human/animal pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pathology(33)	87	164	251	28	47	65	48	55	48	77	75	83	71	597
Human/animal pharmacol	285	495	780	119	148	162	120	127	141	176	169	189	195	1,546
Human/animal physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal physiology(34)	348	1,065	1,413	292	315	295	316	265	293	258	275	276	287	2,872
Animal/plant physiol(34)	267	-	267	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	113	279	392	78	69	57	66	54	46	46	28	34	42	520
Hydrobiology	31	56	87	24	26	23	10	16	8	13	14	3	10	147
Immunology	-	-	-	-	-	15	47	53	62	74	85	80	122	538
Microbiology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bacteriology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Microbiology/bacteriol(35)	805	1,363	2,168	330	354	338	329	304	304	301	266	297	304	3,127
Molecular biology	-	75	75	81	98	135	102	116	131	130	111	149	121	1,174
Neurosciences	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutritional sciences(36)	14	-	14	-	-	-	-	-	-	58	52	64	81	255
Parasitology	-	-	-	-	-	-	19	19	14	17	13	10	16	108
Toxicology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology, other(37)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology(37)	834	1,194	2,028	317	329	330	301	232	247	242	228	216	228	2,670
Biological sci, general	30	135	165	101	123	102	151	152	149	155	145	155	147	1,380
Biological sci, other	71	234	305	145	114	132	179	141	168	147	125	146	145	1,442

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
U.S. CITIZENS													
AGRIC & BIOL SCI	3,849	3,891	3,964	3,859	3,910	3,831	3,703	3,565	3,670	3,724	37,966	3,822	3,799
Agricultural sciences	570	594	647	649	625	683	579	584	539	607	6,077	630	551
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	1	1	-	-
Agronomy	81	109	100	84	68	91	84	83	69	81	850	76	55
Animal breeding/genetics(21)	19	14	20	16	18	17	14	12	14	11	155	16	12
Animal nutrition(22)	-	-	-	41	47	53	47	62	37	49	336	40	36
Animal sci/nutrition(22)	83	84	96	-	-	-	-	-	-	-	263	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	8	9	17	11	8
Poultry science(22)	-	-	-	-	-	-	-	-	4	5	9	8	5
Animal sciences, other(22)	-	-	-	56	55	58	55	49	53	58	384	44	55
Fish/wildlife(23)	58	62	57	-	-	-	-	-	-	-	177	-	-
Fisheries science(23)	-	-	-	23	35	33	20	24	24	18	177	28	26
Wildlife management(23)	-	-	-	24	27	32	17	19	2	-	121	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	27	42	69	39	45
Food sciences(24)	52	47	56	73	58	66	54	56	4	1	467	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	2	1	3	2	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	43	61	104	49	49
Forestry science(25)	61	67	59	65	80	82	58	69	14	-	555	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	17	17	34	19	11
Forest engineering(25)	-	-	-	-	-	-	-	-	2	-	2	1	1
Forest management(25)	-	-	-	-	-	-	-	-	10	16	26	8	13
Wood science(25)	-	-	-	-	-	-	-	-	4	6	10	6	6
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	3	6	9	9	11
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	14	28	42	26	27
Horticulture science	44	43	65	45	48	42	38	42	29	48	444	61	42
Plant breeding/genetics(26)	-	-	-	52	55	59	42	47	50	42	347	56	36
Plant pathology(26)	-	-	-	66	32	61	51	48	25	32	315	36	35
Phytopathology(26)	77	68	86	-	-	-	-	-	-	-	231	-	-
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	1	3	4	3	1
Plant sciences, other(26)	-	-	-	11	14	11	15	8	11	8	78	14	10
Soil sciences(28)	43	44	50	49	51	49	55	38	11	-	390	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	22	19	41	17	15
Soil sciences, other(28)	-	-	-	-	-	-	-	-	23	34	57	44	40
Agriculture, general	2	1	1	3	1	1	2	1	1	3	16	-	-
Agriculture, other	50	55	57	41	36	28	27	26	15	8	343	17	12
Biological sciences	3,279	3,297	3,317	3,210	3,285	3,148	3,124	2,981	3,131	3,117	31,889	3,192	3,248
Anatomy	133	145	144	94	91	115	72	77	72	64	1,007	57	59
Biochemistry	589	555	549	540	499	472	461	430	439	486	5,020	487	511
Biometrics/biostat	33	40	49	35	36	31	21	26	29	34	334	30	31
Biophysics	84	79	72	72	72	58	55	56	71	60	679	58	51
Botany, other(29)	-	-	-	103	110	100	100	81	86	88	668	74	81
Botany(29)	126	126	125	-	-	-	-	-	-	-	377	-	-
Cell biology(30)	-	-	-	107	110	87	111	110	95	111	731	114	109
Cytology(30)	38	41	37	-	-	-	-	-	-	-	116	-	-
Devel bio/embryology(31)	16	19	8	11	13	14	9	4	6	9	109	19	33
Ecology	155	183	160	164	187	180	155	137	123	130	1,574	142	160
Endocrinology(6)	-	-	-	23	23	14	13	14	17	13	117	19	24
Entomology	120	108	128	103	110	136	130	88	103	107	1,133	106	94
Human/animal genetics(32)	-	-	-	87	71	89	81	91	90	83	592	125	120
Plant genetics(32)	-	-	-	10	17	23	16	22	14	10	112	21	13
Genetics(32)	126	137	151	-	-	-	-	-	-	-	414	-	-
Human/animal pathology(33)	-	-	-	77	73	93	77	95	87	83	585	70	86
Plant pathology(33)	-	-	-	26	21	27	20	20	23	18	155	21	24
Pathology(33)	87	83	80	-	-	-	-	-	-	-	250	-	-
Human/animal pharmacol	222	248	248	195	202	200	208	190	207	191	2,111	187	185
Human/animal physiol(34)	-	-	-	218	207	199	203	196	182	217	1,422	196	205
Animal physiology(34)	317	302	269	-	-	-	-	-	-	-	888	-	-
Animal/plant physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	42	53	44	52	59	46	45	47	47	37	472	41	34
Hydrobiology	-	-	-	-	-	-	-	-	-	-	-	-	-
Immunology	110	137	131	133	117	106	124	110	155	129	1,252	125	132
Microbiology(35)	-	-	-	267	293	231	260	230	266	248	1,795	233	263
Bacteriology(35)	-	-	-	7	10	15	8	10	5	9	64	12	8
Microbiology/bacteriol(35)	313	303	269	-	-	-	-	-	-	-	885	-	-
Molecular biology	158	169	194	202	250	240	259	240	279	314	2,305	314	334
Neurosciences	-	-	108	121	130	136	109	133	138	149	1,024	153	191
Nutritional sciences(36)	75	76	86	85	83	86	94	102	79	85	851	79	64
Parasitology	16	14	10	7	27	16	20	13	14	12	149	8	10
Toxicology(6)	-	-	-	53	92	90	98	103	89	96	621	71	71
Zoology, other(37)	-	-	-	180	144	126	128	118	141	111	948	106	108
Zoology(37)	209	179	184	-	-	-	-	-	-	-	572	-	-
Biological sci, general	167	167	157	142	135	148	147	152	167	142	1,524	221	163
Biological sci, other	143	133	114	96	103	70	100	86	107	81	1,033	103	84

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate										
				1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
U.S. CITIZENS														
SOCIAL SCIENCES	4,379	7,361	11,740	2,290	2,727	2,777	2,887	2,772	2,890	2,870	2,650	2,544	2,420	26,827
Agricultural economics	-	59	59	77	107	103	104	110	91	93	81	90	72	928
Anthropology	327	571	898	187	212	231	289	334	345	377	337	340	330	2,982
Area studies	18	70	88	62	67	30	25	26	26	23	16	18	22	315
Criminology(38)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Demography(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Econometrics	51	80	131	18	20	20	20	11	13	19	16	14	14	165
Economics	1,584	2,315	3,899	612	581	628	631	567	628	601	549	517	514	5,828
Geography	223	315	538	105	123	136	170	150	154	125	117	119	105	1,304
History of science(39)	-	-	-	-	32	36	27	27	25	28	28	21	25	249
International relations	197	318	515	85	113	80	105	101	87	90	77	62	58	858
Linguistics	181	367	548	102	128	116	155	115	145	111	133	118	99	1,222
Pol sci/government(40)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Political science(40)	-	-	-	-	-	-	-	1	1	519	502	508	421	1,952
Pol sci, public admin(40)	903	1,630	2,533	443	584	663	652	617	620	32	-	-	-	3,611
Public policy studies(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sociology	801	1,353	2,154	419	489	539	498	514	556	614	619	518	534	5,300
Statistics	-	89	89	78	96	51	33	17	20	22	17	24	9	367
Urban studies(41)	-	-	-	-	26	34	42	51	55	67	54	57	62	448
Social sciences, general	23	37	60	21	20	18	35	28	30	28	22	27	26	255
Social sciences, other	71	157	228	81	129	92	101	103	94	121	82	111	129	1,043
PSYCHOLOGY	4,080	6,191	10,271	1,775	1,992	2,118	2,285	2,344	2,552	2,727	2,774	2,804	2,850	24,221
Clinical	1,461	2,060	3,521	533	597	665	717	730	774	866	910	961	985	7,738
Cognitive(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Comparative(42)	39	66	105	20	13	21	23	23	21	25	21	20	21	208
Counseling(43)	275	374	649	108	134	143	192	192	219	255	260	264	301	2,068
Developmental(44)	97	227	324	78	107	127	138	144	167	182	192	201	210	1,546
Educational	252	270	522	82	90	114	104	108	127	117	126	135	147	1,150
Exper, compar, physiol(42)	425	7	432	-	-	-	-	-	-	-	-	-	-	-
Experimental(42)	492	1,315	1,807	346	376	334	310	335	331	339	315	283	277	3,246
Indust/organizational(45)	178	232	410	70	61	50	70	72	56	62	75	68	82	666
Physiological(42)	105	375	480	108	122	110	115	109	115	127	125	117	97	1,145
Quantitative(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Personality	110	157	267	47	42	45	48	58	61	57	62	39	40	499
Psychometrics	78	83	161	15	33	18	21	21	14	24	16	13	22	197
School	69	111	180	45	69	87	105	85	101	137	142	122	118	1,011
Social	370	573	943	134	153	158	194	181	205	186	191	192	204	1,798
Psychology, general	87	227	314	109	106	114	123	152	199	187	199	247	159	1,595
Psychology, other	42	114	156	80	89	132	125	134	162	163	140	142	187	1,354
TOTAL, ENGINEERING	4,592	9,693	14,285	2,518	2,426	2,334	2,145	1,754	1,717	1,558	1,473	1,261	1,294	18,480
Aerospace,aero/astronaut(46)	189	526	715	158	145	125	113	101	96	84	58	48	30	958
Agricultural	76	137	213	40	42	45	51	21	34	21	16	21	23	314
Bioengineering/biomed(47)	-	34	34	38	59	64	58	45	63	59	62	60	57	565
Ceramic	82	180	262	41	39	21	21	19	15	12	18	19	16	221
Chemical	903	1,434	2,337	310	266	255	239	197	190	153	160	127	139	2,036
Civil	355	751	1,106	166	184	191	176	130	132	124	113	91	99	1,406
Communications(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Computer	-	-	-	-	-	-	-	-	60	65	75	40	36	276
Electrical/electronics(48)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical(48)	964	2,054	3,018	547	550	474	453	338	310	293	259	214	255	3,693
Electronics(48)	265	459	724	120	87	93	77	57	46	47	48	30	40	645
Engineering mechanics	327	741	1,068	169	131	118	102	95	86	59	58	45	40	903
Engineering physics(49)	186	420	606	35	28	25	24	15	12	17	18	12	10	196
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Environmental health eng(50)	90	191	281	43	39	57	51	39	49	45	49	46	54	472
Fuel tech/petro eng(9)	-	9	9	4	8	4	3	2	1	1	1	-	1	25
Industrial	91	274	365	79	109	104	88	51	62	36	39	35	45	648
Materials science	-	19	19	29	31	52	84	54	76	56	63	71	58	574
Mechanical	540	1,242	1,782	316	296	278	235	221	188	182	152	149	152	2,169
Metallurgical(51)	398	721	1,119	168	137	109	88	77	62	53	52	49	42	837
Mining/mineral(52)	-	5	5	4	4	12	4	1	3	1	1	3	2	35
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(49)	-	83	83	85	102	84	94	75	59	78	67	61	60	765
Ocean(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operations research	-	-	-	-	-	41	67	89	46	53	44	48	38	426
Petroleum(53)	-	-	-	-	-	-	-	2	5	6	5	1	4	23
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Systems(54)	-	-	-	-	-	-	-	-	51	44	41	31	45	212
Engineering, general	14	63	77	23	21	24	20	21	19	19	21	22	14	204
Engineering, other	112	350	462	143	148	158	97	104	52	50	53	38	34	877
TOTAL, NON-S&E(55)	18,778	33,516	52,294	10,348	11,293	12,335	12,942	12,593	12,794	13,187	12,483	11,960	11,940	121,875
TOTAL, ALL FIELDS	50,317	86,544	136,861	24,915	26,758	27,479	27,913	26,343	27,082	27,269	26,119	25,291	25,464	264,633

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
U.S. CITIZENS													
SOCIAL SCIENCES	2,375	2,294	2,163	2,199	2,036	1,982	2,013	1,856	1,862	1,807	20,587	1,919	1,901
Agricultural economics	96	91	94	79	73	83	78	69	80	80	823	67	65
Anthropology	332	320	289	326	281	302	312	287	264	255	2,968	271	279
Area studies	19	12	16	15	15	10	10	11	12	10	130	16	9
Criminology(38)	26	32	35	43	32	29	24	23	32	28	304	38	22
Demography(6)	-	-	-	13	8	12	7	10	6	13	69	7	12
Econometrics	14	7	13	9	12	14	9	9	7	6	100	10	10
Economics	489	521	431	496	432	425	464	410	422	423	4,513	389	357
Geography	104	83	70	86	77	78	74	75	86	62	795	83	70
History of science(39)	21	22	25	12	20	17	17	23	21	16	194	20	18
International relations	47	60	43	52	51	52	43	50	40	50	488	53	57
Linguistics	125	117	119	105	95	107	105	107	80	88	1,048	86	115
Pol sci/government(40)	-	-	-	310	303	276	274	256	229	259	1,907	320	285
Political science(40)	423	348	351	-	-	-	-	-	-	-	1,122	-	-
Pol sci, public admin(40)	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	53	43	57	65	63	55	63	399	59	72
Sociology	495	495	467	419	420	363	371	307	314	287	3,938	297	308
Statistics	20	19	15	18	13	16	22	14	19	17	173	23	5
Urban studies(41)	54	50	58	42	50	42	27	38	47	27	435	33	40
Social sciences, general	25	16	26	13	8	9	20	17	14	15	163	11	23
Social sciences, other	85	101	111	108	103	90	91	87	134	108	1,018	136	154
PSYCHOLOGY	2,859	3,111	2,876	3,044	2,935	2,805	2,766	2,747	2,667	2,684	28,494	2,909	2,796
Clinical	1,037	1,214	1,104	1,161	1,113	1,098	1,072	1,069	967	1,068	10,903	1,188	1,148
Cognitive(6)	-	-	-	60	66	73	64	69	69	68	469	62	80
Comparative(42)	8	11	11	11	12	11	13	9	7	5	98	7	7
Counseling(43)	292	331	333	413	444	414	417	464	457	469	4,034	450	471
Developmental(44)	198	195	181	211	192	163	168	182	165	134	1,789	144	146
Educational	126	170	131	134	183	117	92	79	93	81	1,206	91	93
Exper, compar, physiol(42)	-	-	-	-	-	-	-	-	-	-	-	-	-
Experimental(42)	287	268	223	188	163	150	133	135	123	132	1,802	125	119
Indust/organizational(45)	64	83	79	86	99	97	107	102	110	96	923	113	129
Physiological(42)	103	96	86	84	70	69	71	61	78	61	779	42	38
Quantitative(6)	-	-	-	14	17	14	21	11	11	8	96	11	5
Personality	42	48	35	30	23	19	15	24	16	23	275	18	13
Psychometrics	19	24	8	10	6	8	11	9	10	5	110	5	6
School	172	130	158	114	83	89	106	88	104	98	1,142	79	74
Social	182	166	161	175	145	151	122	120	131	110	1,463	132	132
Psychology, general	159	201	188	213	175	172	195	186	221	205	1,915	291	200
Psychology, other	170	174	178	140	144	160	159	139	105	121	1,490	151	135
TOTAL, ENGINEERING	1,255	1,170	1,169	1,163	1,239	1,279	1,383	1,558	1,781	1,864	13,861	1,953	1,977
Aerospace,aero/astronaut(46)	33	50	34	40	46	53	40	64	67	74	501	82	96
Agricultural	27	18	21	18	27	24	24	34	42	50	285	52	27
Bioengineering/biomed(47)	54	48	48	57	46	48	50	50	77	80	558	77	88
Ceramic	14	11	11	13	15	12	14	25	14	17	146	23	30
Chemical	124	128	136	162	167	218	219	280	335	352	2,121	307	316
Civil	98	105	110	124	124	114	122	146	168	166	1,277	156	139
Communications(6)	-	-	-	12	7	10	10	6	12	10	67	9	6
Computer	28	29	21	29	25	13	26	23	27	36	257	43	56
Electrical/electronics(48)	-	-	-	181	251	246	291	291	359	394	2,013	438	465
Electrical(48)	228	201	196	29	4	1	-	-	-	-	659	-	-
Electronics(48)	42	45	45	8	-	-	-	-	-	-	140	-	-
Engineering mechanics	42	38	48	24	38	32	39	39	34	35	369	32	27
Engineering physics(49)	12	12	11	8	6	8	10	13	6	10	96	8	12
Engineering science(6)	-	-	-	15	10	14	17	12	16	10	94	18	20
Environmental health eng(50)	52	52	35	30	34	16	17	16	20	22	294	24	24
Fuel tech/petro eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	34	35	38	27	30	29	33	44	40	51	361	56	46
Materials science	68	55	63	69	76	89	82	108	119	119	848	126	152
Mechanical	142	120	150	121	125	161	170	202	222	224	1,637	267	252
Metallurgical(51)	57	33	34	35	31	43	23	43	39	37	375	40	24
Mining/mineral(52)	1	4	5	9	5	6	7	11	6	13	67	14	9
Naval arch/marine engin(2)	-	-	-	-	2	2	3	4	1	1	13	1	1
Nuclear(49)	57	61	58	35	58	38	40	30	56	32	465	38	41
Ocean(6)	-	-	-	2	4	3	9	5	6	6	35	2	2
Operations research	43	40	26	21	29	24	29	25	24	29	290	17	33
Petroleum(53)	8	3	8	3	6	6	5	6	12	11	68	17	9
Polymer(6)	-	-	-	9	9	16	17	8	11	19	89	17	16
Systems(54)	35	32	20	24	24	20	16	18	17	15	221	22	21
Engineering, general	24	12	13	10	6	3	21	21	18	16	144	22	15
Engineering, other	32	38	38	48	34	30	49	34	33	35	371	45	50
TOTAL, NON-S&E(55)	11,812	11,517	11,099	10,956	10,777	10,423	10,212	10,164	10,071	10,088	107,119	10,876	10,798
TOTAL, ALL FIELDS	25,222	25,061	24,391	24,359	24,027	23,370	23,081	22,983	23,288	23,400	239,182	24,886	24,721

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate 1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
U.S. CITIZENS & NON-U.S. PERMANENT VISAS														
TOTAL, S&E	32,823	56,361	89,184	15,809	16,956	16,792	16,550	15,150	15,557	15,188	14,626	14,323	14,469	155,420
TOTAL, SCIENCES	27,868	45,530	73,398	12,857	13,996	13,834	13,844	12,879	13,420	13,239	12,827	12,737	12,852	132,485
PHYSICAL SCIENCES	8,381	12,968	21,349	3,474	3,514	3,211	2,947	2,596	2,553	2,392	2,262	2,161	2,205	27,315
Physics/astronomy	3,035	5,416	8,451	1,436	1,503	1,403	1,314	1,054	1,034	987	919	868	870	11,388
Acoustics	43	43	86	23	17	19	14	13	11	9	9	13	11	139
Astronomy(1)	-	33	33	42	54	59	54	51	52	68	61	63	52	556
Astronomy/astrophysics(1)	118	261	379	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	-	61	61	53	50	60	58	68	58	63	48	64	49	571
Atomic/molecular	371	574	945	139	109	139	107	106	112	99	89	76	66	1,042
Electron(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electromagnetism(3)	96	108	204	17	16	10	11	7	10	11	9	9	4	104
Elementary particle	455	861	1,316	208	237	159	180	114	104	100	108	108	99	1,417
Fluids	81	159	240	19	20	28	24	17	16	19	12	10	14	179
Mechanics(4)	19	36	55	6	6	5	5	2	2	3	-	-	-	29
Nuclear(5)	572	788	1,360	191	205	209	151	118	103	73	79	61	82	1,272
Optics	30	60	90	28	23	28	29	19	26	44	27	26	36	286
Plasma	-	55	55	76	74	78	63	48	44	66	62	59	48	618
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid state	732	1,529	2,261	367	394	349	344	276	266	228	201	196	195	2,816
Theoretical physics(7)	220	-	220	-	-	-	-	-	-	-	-	-	-	-
Thermal(8)	27	81	108	15	16	13	14	13	8	3	5	8	6	101
Physics, general	77	290	367	117	115	98	137	94	112	105	115	97	119	1,109
Physics, other	194	477	671	135	167	149	123	108	110	96	94	78	89	1,149
Chemistry	5,346	7,552	12,898	2,038	2,011	1,808	1,633	1,542	1,519	1,405	1,343	1,293	1,335	15,927
Agricultural/food	119	171	290	48	49	17	7	11	5	11	5	4	9	166
Analytical	385	581	966	150	169	141	123	136	127	136	166	164	189	1,501
Inorganic	528	939	1,467	288	287	269	249	186	212	213	172	179	182	2,237
Nuclear	115	116	231	31	32	20	24	27	20	22	21	13	12	222
Organic	2,296	3,196	5,492	784	747	670	580	576	524	438	430	393	404	5,546
Pharmaceutical	159	191	350	46	57	41	45	60	59	48	41	45	37	479
Physical	1,540	1,998	3,538	513	453	429	400	342	347	308	294	260	289	3,635
Polymer	-	-	-	-	-	-	12	23	33	33	42	45	45	233
Theoretical	87	161	248	58	60	61	47	45	40	43	30	38	42	464
Chemistry, general	50	73	123	59	68	79	82	93	101	98	89	94	80	843
Chemistry, other	67	126	193	61	89	81	64	43	51	55	53	58	46	601
EARTH, ATMOS, OCEAN SCI	1,181	1,788	2,969	425	494	525	547	500	527	538	580	540	564	5,240
Applied geo, geo eng(9)	89	87	176	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	-	18	18	14	27	34	19	20	15	17	17	14	17	194
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atmos/meteorol sci, other	-	-	-	-	-	-	-	-	-	16	35	30	31	112
Atmospheric dynamics	-	-	-	-	-	-	-	-	-	11	26	19	21	77
Atmospheric phys/chem	-	-	-	-	-	-	-	-	-	14	14	20	15	63
Environmental sciences(10)	-	-	-	-	-	17	53	47	69	55	48	41	49	379
Geochemistry(11)	-	33	33	32	47	30	35	38	40	42	53	47	50	414
Geology(12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Structural geology(12)	60	120	180	11	27	20	18	12	15	21	19	26	23	192
Geomorph/glacial geology	41	63	104	15	22	18	26	20	29	28	21	23	14	216
Geophysics/seismology(13)	-	-	-	-	-	-	-	-	-	31	56	46	70	203
Geophysics(13)	101	149	250	51	61	66	54	65	70	22	-	-	-	389
Hydrology/water res(14)	11	38	49	16	23	10	26	10	17	11	15	22	17	167
Marine sciences(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marine sciences, other(15)	-	-	-	-	-	-	-	-	-	-	9	28	29	66
Meteorology(16)	84	174	258	48	57	74	52	50	33	18	-	-	-	332
Mineral, petrol, geochem(11)	323	316	639	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	-	42	42	50	43	54	39	32	31	46	55	34	32	416
Oceanography	56	185	241	63	50	74	80	74	78	78	100	84	79	760
Paleontology	119	187	306	39	31	30	43	39	39	40	26	29	34	350
Stratigraphy, sediment	268	245	513	47	64	51	49	44	41	48	32	29	31	436
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earth sciences, general(17)	13	66	79	22	22	24	31	30	25	22	34	34	32	276
Earth sciences, other(17)	16	65	81	17	20	23	22	19	25	18	20	14	20	198
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MATHEMATICS	1,752	3,747	5,499	1,076	1,074	1,095	1,032	947	923	803	744	666	603	8,963
Algebra	233	614	847	177	184	150	131	107	106	97	76	74	78	1,180
Analysis/funct analysis(18)	500	961	1,461	215	234	215	210	174	144	116	119	98	89	1,614
Applied mathematics	219	499	718	123	103	96	91	101	86	80	95	82	79	936
Computing theory	39	170	209	111	124	142	193	160	136	131	89	48	22	1,156
Geometry	75	109	184	34	28	28	26	30	22	16	19	18	21	242
Logic	44	114	158	32	28	33	30	18	34	27	13	19	18	252
Math probability/stat(19)	273	421	694	69	88	126	127	113	141	117	126	130	127	1,164
Number theory	70	83	153	24	27	33	27	19	21	23	28	17	16	235
Operations research	-	-	-	-	-	-	3	13	40	32	31	34	33	186
Topology	228	484	712	131	109	121	101	106	82	59	57	50	53	869
Mathematics, general	32	134	166	72	76	80	57	64	69	63	54	59	45	639
Mathematics, other	39	158	197	88	73	71	36	42	42	42	37	37	22	490
COMPUTER & INFO SCI	-	-	-	-	-	-	1	-	-	-	25	90	175	291
Computer sciences	-	-	-	-	-	-	1	-	-	-	25	90	175	291
Information sci/systems(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

	Year of doctorate												
Citizenship status and subfield	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS													
TOTAL, S&E	14,362	14,437	14,146	14,301	14,085	13,876	13,856	13,905	14,345	14,433	141,746	15,196	15,175
TOTAL, SCIENCES	12,808	12,966	12,681	12,819	12,572	12,282	12,130	11,992	12,198	12,204	124,652	12,856	12,817
PHYSICAL SCIENCES	2,035	2,103	2,110	2,184	2,190	2,178	2,147	2,227	2,236	2,119	21,529	2,316	2,226
Physics/astronomy	766	774	741	760	775	746	734	755	785	736	7,572	820	806
Acoustics	21	12	8	12	15	8	12	13	13	12	126	13	9
Astronomy(1)	48	44	48	45	33	36	45	33	50	36	418	37	36
Astronomy/astrophysics(1)	-	-	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	61	56	44	58	48	48	46	40	54	46	501	59	50
Atomic/molecular	60	54	73	53	61	43	47	55	57	47	550	62	51
Electron(2)	-	-	-	1	-	3	1	6	2	2	15	-	-
Electromagnetism(3)	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	91	98	84	96	95	105	97	104	113	92	975	99	119
Fluids	10	9	9	13	9	11	3	11	11	10	96	12	11
Mechanics(4)	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(5)	57	47	39	70	58	64	54	50	55	58	552	49	42
Optics	33	41	33	31	40	36	42	36	51	48	391	47	58
Plasma	51	55	54	54	59	40	47	49	48	41	498	29	36
Polymer(6)	-	-	-	6	4	8	7	10	9	4	48	4	7
Solid state	155	194	184	167	190	169	169	173	153	174	1,728	174	189
Theoretical physics(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
Thermal(8)	5	4	-	-	-	-	-	-	-	-	9	-	-
Physics, general	95	83	81	76	87	95	81	99	86	93	876	144	99
Physics, other	79	77	84	78	76	80	83	76	83	73	789	91	99
Chemistry	1,269	1,329	1,369	1,424	1,415	1,432	1,413	1,472	1,451	1,383	13,957	1,496	1,420
Agricultural/food	-	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	167	209	171	233	190	248	214	258	250	230	2,170	241	233
Inorganic	167	168	196	190	205	211	215	197	201	202	1,952	193	184
Nuclear	12	11	15	10	12	6	15	12	5	6	104	9	13
Organic	401	429	432	418	441	402	418	400	399	392	4,132	372	380
Pharmaceutical	36	44	42	56	48	48	48	47	51	53	473	31	57
Physical	244	239	289	259	281	248	236	239	239	229	2,503	233	243
Polymer	44	40	33	44	48	59	54	64	49	49	484	51	55
Theoretical	40	27	24	38	30	43	30	39	38	28	337	42	33
Chemistry, general	98	100	97	111	93	101	110	147	146	120	1,123	278	169
Chemistry, other	60	62	70	65	67	66	73	69	73	74	679	46	53
EARTH, ATMOS, OCEAN SCI	538	488	557	513	499	474	446	450	542	559	5,066	558	610
Applied geo, geo eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	22	16	17	6	6	7	4	2	6	5	91	5	1
Atmos/meteorol sci, gen(6)	-	-	-	13	4	6	6	7	10	8	54	11	13
Atmos/meteorol sci, other	37	21	23	21	8	6	5	8	9	12	150	1	8
Atmospheric dynamics	14	23	17	11	17	15	9	12	18	11	147	13	9
Atmospheric phys/chem	18	14	17	19	9	15	16	15	11	11	145	10	11
Environmental sciences(10)	37	45	45	41	39	35	30	24	48	57	401	43	27
Geochemistry(11)	44	47	43	45	38	39	30	22	38	30	376	45	54
Geology(12)	-	-	-	83	100	86	100	84	110	129	692	132	150
Structural geology(12)	19	27	24	-	-	-	-	-	-	-	70	-	-
Geomorph/glacial geology	12	12	19	9	8	12	9	16	8	10	115	13	17
Geophysics/seismology(13)	52	59	66	56	50	65	57	45	53	59	562	56	77
Geophysics(13)	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	22	12	16	12	14	9	12	11	14	14	136	9	12
Marine sciences(6)	-	-	-	18	17	20	19	31	23	20	148	31	16
Marine sciences, other(15)	25	27	35	-	-	-	-	-	-	-	87	-	-
Meteorology(16)	-	-	-	13	23	17	15	11	20	18	117	13	18
Mineral, petrol, geochem(11)	-	-	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	46	27	38	20	27	25	15	22	16	32	268	23	32
Oceanography	77	63	80	71	62	52	57	49	55	64	630	46	63
Paleontology	20	19	24	17	32	20	12	17	22	16	199	19	20
Stratigraphy, sediment	38	37	44	20	14	20	13	21	27	21	255	25	25
Geological sciences, gen(17)	-	-	-	11	9	8	7	13	4	10	62	18	20
Geological sciences, oth(17)	-	-	-	17	18	8	11	25	28	20	127	22	25
Earth sciences, general(17)	38	27	27	-	-	-	-	-	-	-	92	-	-
Earth sciences, other(17)	17	12	22	-	-	-	-	-	-	-	51	-	-
Physical sciences, other(6)	-	-	-	10	4	9	19	15	22	12	91	23	12
MATHEMATICS	582	525	499	457	443	418	402	396	386	428	4,536	422	494
Algebra	68	42	48	39	43	34	24	32	33	30	393	23	48
Analysis/funct analysis(18)	74	75	66	48	41	56	48	43	53	55	559	45	61
Applied mathematics	82	90	84	93	78	64	81	82	76	83	813	96	94
Computing theory	12	13	7	9	8	13	5	11	8	9	95	9	15
Geometry	31	27	24	26	17	21	24	11	22	28	231	19	26
Logic	23	17	16	17	16	24	17	10	12	6	158	13	17
Math probability/stat(19)	111	112	109	102	115	88	81	79	73	91	961	62	92
Number theory	22	21	25	12	20	11	15	11	11	17	165	15	21
Operations research	28	20	21	10	15	14	17	12	18	13	168	13	11
Topology	51	45	40	34	31	26	21	31	17	24	320	34	36
Mathematics, general	47	41	33	34	36	36	45	46	42	40	400	55	43
Mathematics, other	33	22	26	33	23	31	24	28	21	32	273	38	30
COMPUTER & INFO SCI	169	188	155	207	195	213	249	275	326	396	2,373	403	441
Computer sciences	169	188	155	189	168	170	220	235	277	321	2,092	338	392
Information sci/systems(6)	-	-	-	18	27	43	29	40	49	75	281	65	49

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

	Year of doctorate													
Citizenship status and subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
U.S. CITIZENS & NON-U.S. PERMANENT VISAS														
AGRIC & BIOL SCI	7,808	12,805	20,613	3,577	3,927	3,834	3,875	3,483	3,733	3,696	3,585	3,707	3,835	37,252
Agricultural sciences	1,776	2,203	3,979	602	663	618	617	526	633	536	514	573	573	5,855
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agronomy	523	548	1,071	147	134	100	100	68	80	77	71	85	78	940
Animal breeding/genetics(21)	491	479	970	103	72	55	30	14	17	14	17	17	21	360
Animal nutrition(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sci/nutrition(22)	-	1	1	-	-	50	82	90	94	92	74	64	76	622
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sciences, other(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish/wildlife(23)	83	120	203	43	57	48	44	47	58	50	61	53	62	523
Fisheries science(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife management(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences(24)	-	27	27	31	52	61	64	71	73	66	59	81	70	628
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry science(25)	137	255	392	63	72	63	63	49	64	57	53	66	64	614
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest engineering(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horticulture science	179	228	407	47	57	56	35	27	54	30	39	41	51	437
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phytopathology(26)	274	305	579	74	77	65	77	62	71	57	57	60	63	663
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences(28)	-	20	20	21	30	45	60	43	66	36	33	57	33	424
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agriculture, general	6	21	27	2	-	3	4	1	1	5	-	3	1	20
Agriculture, other	83	199	282	71	112	72	58	54	55	52	50	46	54	624
Biological sciences	6,032	10,602	16,634	2,975	3,264	3,216	3,258	2,957	3,100	3,160	3,071	3,134	3,262	31,397
Anatomy	208	418	626	111	141	151	123	107	109	127	102	132	145	1,248
Biochemistry	1,249	2,068	3,317	509	580	523	567	512	553	535	536	529	540	5,384
Biometrics/biostat	49	96	145	34	37	23	30	23	32	39	42	38	41	339
Biophysics	140	403	543	101	88	93	93	98	89	103	114	98	114	991
Botany, other(29)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Botany(29)	467	696	1,163	158	186	173	194	144	138	163	145	127	125	1,553
Cell biology(30)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cytology(30)	57	162	219	52	51	36	34	40	35	43	34	29	39	393
Devel bio/embryology(31)	44	158	202	39	35	33	28	20	25	11	19	15	14	239
Ecology	171	270	441	102	113	123	121	135	131	136	152	162	168	1,343
Endocrinology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Entomology	369	582	951	148	187	163	147	135	135	118	119	120	124	1,396
Human/animal genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Genetics(32)	307	457	764	117	119	132	103	92	127	108	126	109	122	1,155
Human/animal pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pathology(33)	90	178	268	32	54	76	61	63	55	84	83	86	73	667
Human/animal pharmacol	298	535	833	129	165	172	139	142	153	186	183	198	196	1,663
Human/animal physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal physiology(34)	360	1,108	1,468	307	333	317	334	282	311	266	287	284	296	3,017
Animal/plant physiol(34)	274	-	274	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	119	296	415	81	73	61	73	56	52	51	30	37	43	557
Hydrobiology	31	58	89	27	26	23	10	17	8	13	14	3	10	151
Immunology	-	-	-	-	-	16	48	62	66	79	90	86	131	578
Microbiology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bacteriology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Microbiology/bacteriol(35)	833	1,431	2,264	354	376	359	358	330	332	320	283	310	317	3,339
Molecular biology	-	80	80	88	104	145	108	128	140	138	118	158	124	1,251
Neurosciences	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutritional sciences(36)	18	-	18	-	-	-	-	-	-	68	60	70	90	288
Parasitology	-	-	-	-	-	-	19	22	15	18	15	10	16	115
Toxicology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology, other(37)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology(37)	843	1,222	2,065	322	338	340	313	234	250	243	236	219	233	2,728
Biological sci, general	30	138	168	107	133	109	165	158	157	159	154	162	152	1,456
Biological sci, other	75	246	321	157	125	148	190	157	187	152	129	152	149	1,546

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS													
AGRIC & BIOL SCI	4,035	4,050	4,104	4,009	4,059	3,982	3,868	3,773	3,933	3,951	39,764	4,068	4,062
Agricultural sciences	605	629	670	685	660	726	627	632	610	652	6,496	687	607
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	1	1	-	-
Agronomy	86	113	103	87	75	93	89	88	79	85	898	83	60
Animal breeding/genetics(21)	20	15	20	18	19	18	15	14	15	12	166	16	12
Animal nutrition(22)	-	-	-	43	50	53	49	64	39	53	351	43	41
Animal sci/nutrition(22)	86	89	100	-	-	-	-	-	-	-	275	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	8	9	17	12	10
Poultry science(22)	-	-	-	-	-	-	-	-	7	5	12	9	7
Animal sciences, other(22)	-	-	-	59	57	64	60	52	59	63	414	47	58
Fish/wildlife(23)	59	62	57	-	-	-	-	-	-	-	178	-	-
Fisheries science(23)	-	-	-	27	36	33	22	25	26	19	188	30	28
Wildlife management(23)	-	-	-	24	28	33	17	21	2	-	125	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	29	42	71	43	47
Food sciences(24)	64	53	63	89	62	79	62	70	5	1	548	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	5	2	7	3	1
Food sciences, other(24)	-	-	-	-	-	-	-	-	55	72	127	66	61
Forestry science(25)	61	70	60	68	81	83	60	72	14	-	569	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	17	18	35	19	11
Forest engineering(25)	-	-	-	-	-	-	-	-	2	-	2	1	1
Forest management(25)	-	-	-	-	-	-	-	-	12	16	28	9	15
Wood science(25)	-	-	-	-	-	-	-	-	4	6	10	7	6
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	4	7	11	10	14
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	15	30	45	27	29
Horticulture science	45	48	67	47	49	46	40	48	34	52	476	65	45
Plant breeding/genetics(26)	-	-	-	52	57	63	45	51	53	44	365	59	38
Plant pathology(26)	-	-	-	67	34	63	55	50	27	34	330	39	40
Phytopathology(26)	79	71	88	-	-	-	-	-	-	-	238	-	-
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	1	4	5	3	1
Plant sciences, other(26)	-	-	-	11	16	12	15	9	13	8	84	14	11
Soil sciences(28)	47	49	52	49	55	54	65	41	12	-	424	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	23	20	43	17	16
Soil sciences, other(28)	-	-	-	-	-	-	-	-	33	36	69	48	42
Agriculture, general	2	1	2	3	1	2	2	1	1	4	19	-	-
Agriculture, other	56	58	58	41	40	30	31	26	16	9	365	17	13
Biological sciences	3,430	3,421	3,434	3,324	3,399	3,256	3,241	3,141	3,323	3,299	33,268	3,381	3,455
Anatomy	137	148	146	95	92	121	72	81	76	69	1,037	60	61
Biochemistry	608	586	583	570	525	500	480	449	470	520	5,291	519	549
Biometrics/biostat	36	40	50	38	39	33	21	28	34	40	359	33	34
Biophysics	94	85	74	74	76	58	58	61	72	63	715	63	55
Botany, other(29)	-	-	-	104	113	100	104	85	89	91	686	76	83
Botany(29)	129	128	127	-	-	-	-	-	-	-	384	-	-
Cell biology(30)	-	-	-	108	114	91	114	116	98	118	759	119	116
Cytology(30)	42	42	37	-	-	-	-	-	-	-	121	-	-
Devel bio/embryology(31)	18	19	9	11	13	15	9	4	7	9	114	20	34
Ecology	159	185	162	168	190	182	157	140	129	134	1,606	146	164
Endocrinology(6)	-	-	-	25	28	14	13	14	17	13	124	23	25
Entomology	127	115	131	107	113	136	135	88	107	111	1,170	113	96
Human/animal genetics(32)	-	-	-	90	74	92	84	96	97	86	619	131	126
Plant genetics(32)	-	-	-	10	18	25	17	22	14	10	116	21	13
Genetics(32)	132	140	157	-	-	-	-	-	-	-	429	-	-
Human/animal pathology(33) -	-	-	81	75	95	78	107	94	90	620	77	87	
Plant pathology(33)	-	-	-	26	21	28	21	23	25	19	163	23	25
Pathology(33)	95	85	83	-	-	-	-	-	-	-	263	-	-
Human/animal pharmacol	239	259	255	198	209	208	217	202	216	197	2,200	197	194
Human/animal physiol(34)	-	-	-	223	214	208	211	208	189	231	1,484	213	214
Animal physiology(34)	323	311	276	-	-	-	-	-	-	-	910	-	-
Animal/plant physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	46	56	48	55	60	46	46	52	54	39	502	42	37
Hydrobiology	-	-	-	-	-	-	-	-	-	-	-	-	-
Immunology	119	141	136	137	121	113	129	113	164	136	1,309	129	138
Microbiology(35)	-	-	-	277	303	241	274	241	284	266	1,886	250	288
Bacteriology(35)	-	-	-	8	11	15	10	10	5	9	68	12	9
Microbiology/bacteriol(35)	333	316	281	-	-	-	-	-	-	-	930	-	-
Molecular biology	165	176	197	208	256	244	268	249	298	334	2,395	327	362
Neurosciences	-	-	115	125	132	141	112	139	144	158	1,066	159	199
Nutritional sciences(36)	79	81	92	93	88	88	100	112	92	93	918	87	74
Parasitology	17	14	10	7	27	18	20	14	16	13	156	8	13
Toxicology(6)	-	-	-	56	94	90	100	110	95	98	643	74	74
Zoology, other(37)	-	-	-	184	147	128	132	120	144	112	967	109	112
Zoology(37)	212	181	187	-	-	-	-	-	-	-	580	-	-
Biological sci, general	173	175	163	146	142	154	153	160	177	151	1,594	243	178
Biological sci, other	147	138	115	100	104	72	106	97	116	89	1,084	107	95

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate										
				1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
U.S. CITIZENS & NON-U.S. PERMANENT VISAS														
SOCIAL SCIENCES	4,587	7,910	12,497	2,489	2,945	3,000	3,107	2,962	3,077	3,042	2,810	2,715	2,575	28,722
Agricultural economics	-	66	66	81	119	111	120	118	103	100	87	93	79	1,011
Anthropology	333	597	930	195	224	241	299	345	353	389	350	354	346	3,096
Area studies	18	74	92	64	73	32	27	29	31	26	16	21	22	341
Criminology(38)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Demography(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Econometrics	55	96	151	21	23	27	21	13	18	22	18	15	16	194
Economics	1,671	2,515	4,186	674	638	684	708	620	674	646	592	569	564	6,369
Geography	239	344	583	114	137	147	179	156	164	133	129	128	109	1,396
History of science(39)	-	-	-	-	32	36	29	30	26	31	28	23	25	260
International relations	217	367	584	91	126	95	110	108	95	96	81	72	64	938
Linguistics	196	404	600	114	140	130	171	128	159	119	145	127	111	1,344
Pol sci/government(40)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Political science(40)	-	-	-	-	-	-	-	1	1	541	534	536	435	2,048
Pol sci, public admin(40)	932	1,724	2,656	471	622	705	684	659	657	33	-	-	-	3,831
Public policy studies(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sociology	828	1,420	2,248	457	518	573	528	544	583	649	648	543	563	5,606
Statistics	-	97	97	90	110	66	44	20	23	22	17	29	12	433
Urban studies(41)	-	-	-	-	29	35	44	55	60	80	58	63	69	493
Social sciences, general	24	38	62	21	20	20	36	29	31	30	22	27	27	263
Social sciences, other	74	168	242	96	134	98	107	107	99	125	85	115	133	1,099
PSYCHOLOGY	4,159	6,312	10,471	1,816	2,042	2,169	2,335	2,391	2,607	2,768	2,821	2,858	2,895	24,702
Clinical	1,498	2,095	3,593	542	608	669	727	740	790	872	920	974	993	7,835
Cognitive(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Comparative(42)	39	68	107	21	15	21	23	23	21	26	22	20	21	213
Counseling(43)	277	378	655	110	139	146	195	194	221	258	261	267	306	2,097
Developmental(44)	97	235	332	80	110	133	142	149	171	184	198	203	214	1,584
Educational	254	276	530	86	95	119	109	113	127	121	128	140	151	1,189
Exper, compar, physiol(42)	432	7	439	-	-	-	-	-	-	-	-	-	-	-
Experimental(42)	501	1,340	1,841	353	380	340	319	341	337	342	321	290	282	3,305
Indust/organizational(45)	180	236	416	72	62	52	70	74	59	64	78	71	85	687
Physiological(42)	108	386	494	111	123	114	117	111	116	130	126	120	98	1,166
Quantitative(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Personality	112	157	269	47	45	48	49	58	62	57	62	40	40	508
Psychometrics	82	88	170	16	35	20	24	21	15	25	17	14	22	209
School	69	111	180	45	69	89	107	88	102	141	143	124	119	1,027
Social	380	583	963	140	159	162	198	186	214	191	195	196	207	1,848
Psychology, general	88	235	323	111	111	119	128	157	206	193	206	250	165	1,646
Psychology, other	42	117	159	82	91	137	127	136	166	164	144	149	192	1,388
TOTAL, ENGINEERING	4,955	10,831	15,786	2,952	2,960	2,958	2,706	2,271	2,137	1,949	1,799	1,586	1,617	22,935
Aerospace,aero/astronaut(46)	208	591	799	181	171	157	138	118	112	92	68	62	45	1,144
Agricultural	82	150	232	42	49	50	55	27	38	24	17	24	27	353
Bioengineering/biomed(47)	-	36	36	44	63	70	66	56	68	65	66	67	62	627
Ceramic	91	190	281	44	42	24	23	20	18	18	25	22	18	254
Chemical	960	1,563	2,523	392	328	326	317	273	255	202	205	173	185	2,656
Civil	401	901	1,302	224	272	276	247	187	174	174	157	118	120	1,949
Communications(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Computer	-	-	-	-	-	-	-	-	69	78	93	53	48	341
Electrical/electronics(48)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical(48)	1,039	2,266	3,305	621	652	587	544	426	370	367	323	266	321	4,477
Electronics(48)	287	539	826	139	102	119	93	74	58	55	59	37	52	788
Engineering mechanics	362	878	1,240	203	180	184	147	137	119	77	73	55	51	1,226
Engineering physics(49)	195	467	662	38	34	34	29	21	13	19	18	13	13	232
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Environmental health eng(50)	95	206	301	46	43	67	65	55	57	55	53	52	58	551
Fuel tech/petro eng(9)	-	14	14	8	12	6	7	4	3	2	1	-	2	45
Industrial	95	298	393	88	121	124	96	61	72	40	48	40	54	744
Materials science	-	22	22	31	43	76	105	77	96	79	83	88	80	758
Mechanical	589	1,357	1,946	354	350	350	302	287	240	226	178	193	191	2,671
Metallurgical(51)	418	776	1,194	191	167	137	106	95	87	68	64	67	52	1,034
Mining/mineral(52)	-	9	9	6	11	15	8	2	5	2	1	6	2	58
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(49)	-	92	92	99	105	98	111	84	69	93	77	78	69	883
Ocean(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operations research	-	-	-	-	1	50	88	107	60	66	52	57	45	526
Petroleum(53)	-	-	-	-	-	-	2	5	10	8	9	6	6	46
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Systems(54)	-	-	-	-	-	-	-	-	58	54	47	38	56	253
Engineering, general	15	74	89	28	29	24	28	28	21	26	22	24	19	249
Engineering, other	118	402	520	173	185	184	129	127	65	59	60	47	41	1,070
TOTAL, NON-S&E(55)	19,125	34,536	53,661	10,682	11,709	12,780	13,361	13,019	13,239	13,575	12,861	12,312	12,315	125,853
TOTAL, ALL FIELDS	51,948	90,897	142,845	26,491	28,665	29,572	29,911	28,169	28,796	28,763	27,487	26,635	26,784	281,273

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS													
SOCIAL SCIENCES	2,540	2,454	2,333	2,341	2,200	2,153	2,187	2,065	2,047	2,013	22,333	2,107	2,128
Agricultural economics	103	103	103	88	82	87	84	79	87	90	906	73	81
Anthropology	346	330	295	335	289	316	329	304	278	269	3,091	280	293
Area studies	19	13	17	15	15	14	10	12	13	11	139	16	11
Criminology(38)	27	34	35	45	32	31	24	23	32	29	312	38	26
Demography(6)	-	-	-	13	8	12	10	11	9	14	77	8	13
Econometrics	17	12	15	12	17	17	14	10	9	9	132	12	11
Economics	540	576	492	552	495	482	518	484	477	476	5,092	456	413
Geography	106	85	75	93	83	86	78	82	90	69	847	91	73
History of science(39)	21	22	25	12	21	18	17	23	22	16	197	20	19
International relations	57	64	49	59	59	60	51	58	45	60	562	62	63
Linguistics	138	120	131	111	106	122	115	117	95	111	1,166	96	134
Pol sci/government(40)	-	-	-	322	329	292	296	286	253	294	2,072	347	313
Political science(40)	442	373	372	-	-	-	-	-	-	-	1,187	-	-
Pol sci, public admin(40)	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	56	48	60	67	64	61	65	421	67	83
Sociology	528	522	495	436	434	380	395	335	342	312	4,179	321	348
Statistics	24	21	21	19	15	21	30	21	23	20	215	27	8
Urban studies(41)	58	56	64	45	55	51	30	43	54	30	486	38	52
Social sciences, general	26	16	27	14	8	9	22	18	15	20	175	15	24
Social sciences, other	88	107	117	114	104	95	97	95	142	118	1,077	140	163
PSYCHOLOGY	2,909	3,158	2,923	3,108	2,986	2,864	2,831	2,806	2,728	2,738	29,051	2,982	2,856
Clinical	1,047	1,222	1,118	1,178	1,132	1,112	1,092	1,087	991	1,087	11,066	1,218	1,167
Cognitive(6)	-	-	-	61	67	73	66	72	71	69	479	65	82
Comparative(42)	8	11	11	11	13	11	14	9	7	6	101	7	7
Counseling(43)	294	340	335	419	451	419	428	470	466	475	4,097	455	475
Developmental(44)	202	198	186	214	194	165	173	189	168	137	1,826	152	149
Educational	131	174	133	144	188	120	95	80	96	82	1,243	93	94
Exper, compar, physiol(42)	-	-	-	-	-	-	-	-	-	-	-	-	-
Experimental(42)	296	272	226	191	164	153	136	137	126	136	1,837	127	125
Indust/organizational(45)	64	85	80	88	101	99	107	103	110	97	934	117	133
Physiological(42)	106	98	87	85	70	74	72	63	80	61	796	43	39
Quantitative(6)	-	-	-	14	17	15	22	12	11	10	101	12	5
Personality	42	48	36	31	23	21	16	24	17	24	282	19	13
Psychometrics	20	24	8	10	6	8	11	9	10	6	112	7	6
School	174	130	160	118	83	90	108	88	105	98	1,154	81	74
Social	184	170	165	178	147	159	129	126	134	112	1,504	135	139
Psychology, general	165	208	194	221	180	179	200	194	228	213	1,982	296	206
Psychology, other	176	178	184	145	150	166	162	143	108	125	1,537	155	142
TOTAL, ENGINEERING	1,554	1,471	1,465	1,482	1,513	1,594	1,726	1,913	2,147	2,229	17,094	2,340	2,358
Aerospace,aero/astronaut(46)	44	56	44	53	57	70	45	72	81	82	604	90	107
Agricultural	28	22	24	25	32	26	28	41	45	58	329	57	29
Bioengineering/biomed(47)	61	57	51	59	52	52	52	54	84	84	606	84	98
Ceramic	17	16	14	16	17	13	15	30	16	20	174	27	32
Chemical	164	171	173	200	199	257	270	328	379	407	2,548	349	360
Civil	122	139	137	154	164	152	167	182	212	221	1,650	215	174
Communications(6)	-	-	-	17	9	17	12	12	15	15	97	14	8
Computer	37	46	32	45	33	24	37	30	39	46	369	56	71
Electrical/electronics(48)	-	-	-	241	310	311	361	351	449	478	2,501	527	578
Electrical(48)	271	252	252	34	4	1	-	-	-	-	814	-	-
Electronics(48)	51	52	51	12	-	-	-	-	-	-	166	-	-
Engineering mechanics	52	45	65	33	49	37	48	52	47	47	475	41	35
Engineering physics(49)	14	15	11	8	7	8	12	13	6	11	105	9	14
Engineering science(6)	-	-	-	16	12	18	21	15	18	12	112	22	24
Environmental health eng(50)	57	53	43	33	37	18	25	21	22	26	335	26	29
Fuel tech/petro eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	44	42	49	45	36	38	47	57	51	59	468	69	63
Materials science	87	73	76	84	93	102	101	130	138	129	1,013	142	177
Mechanical	191	157	198	159	153	214	219	256	280	278	2,105	326	303
Metallurgical(51)	71	46	41	45	40	50	36	54	45	45	473	46	26
Mining/mineral(52)	1	6	6	13	9	7	9	15	8	15	89	16	9
Naval arch/marine engin(2)	-	-	-	-	3	2	7	4	2	2	20	3	2
Nuclear(49)	71	75	66	46	69	43	48	41	60	36	555	47	44
Ocean(6)	-	-	-	4	4	5	9	8	8	7	45	4	4
Operations research	50	49	32	25	33	28	34	34	26	32	343	21	37
Petroleum(53)	15	6	15	4	6	11	8	9	16	12	102	23	11
Polymer(6)	-	-	-	11	12	24	20	13	13	25	118	19	21
Systems(54)	39	39	24	31	29	25	18	22	25	20	272	25	22
Engineering, general	26	15	14	14	7	4	23	31	26	21	181	29	20
Engineering, other	41	39	47	55	37	37	54	38	36	41	425	53	60
TOTAL, NON-S&E(55)	12,150	11,905	11,473	11,333	11,166	10,818	10,657	10,656	10,566	10,593	111,317	11,385	11,360
TOTAL, ALL FIELDS	26,512	26,342	25,619	25,634	25,251	24,694	24,513	24,561	24,911	25,026	253,063	26,581	26,535

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

	Year of doctorate													
Citizenship status and subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
NON-U.S. CITIZENS, TOTAL														
TOTAL, S&E	6,138	11,806	17,944	3,295	3,618	3,860	4,044	4,092	4,056	3,839	3,651	3,557	3,602	37,614
TOTAL, SCIENCES	4,812	8,651	13,463	2,387	2,562	2,717	2,858	2,861	2,815	2,633	2,550	2,462	2,462	26,307
PHYSICAL SCIENCES	1,256	2,231	3,487	626	668	709	740	670	694	648	597	580	580	6,512
Physics/astronomy	501	1,005	1,506	286	321	334	374	328	353	304	293	245	277	3,115
Acoustics	5	6	11	-	5	3	2	1	1	-	3	1	2	18
Astronomy(1)	-	4	4	4	7	8	12	6	9	9	4	2	10	71
Astronomy/astrophysics(1)	16	46	62	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	-	7	7	13	4	8	9	7	16	11	9	13	7	97
Atomic/molecular	37	77	114	19	17	20	23	23	38	22	18	20	8	208
Electron(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electromagnetism(3)	15	23	38	3	4	1	3	2	2	4	2	1	2	24
Elementary particle	93	199	292	59	61	53	63	42	29	36	36	29	29	437
Fluids	12	46	58	6	6	4	8	6	6	4	3	4	2	49
Mechanics(4)	4	8	12	2	-	2	2	2	1	1	-	-	-	10
Nuclear(5)	124	146	270	36	39	39	47	37	37	27	24	20	25	331
Optics	6	9	15	3	4	3	7	6	11	8	5	9	12	68
Plasma	-	10	10	19	18	24	16	11	15	15	18	13	18	167
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid state	91	268	359	53	74	87	88	105	96	78	79	66	73	799
Theoretical physics(7)	50	-	50	-	-	-	-	-	-	-	-	-	-	-
Thermal(8)	5	9	14	2	3	6	6	6	1	1	4	4	1	34
Physics, general	9	70	79	43	37	50	64	54	59	66	57	48	60	538
Physics, other	34	77	111	24	42	26	24	20	32	22	31	15	28	264
Chemistry	755	1,226	1,981	340	347	375	366	342	341	344	304	335	303	3,397
Agricultural/food	74	100	174	28	23	12	6	3	4	4	1	4	2	87
Analytical	42	47	89	19	15	14	13	20	19	19	17	20	30	186
Inorganic	47	100	147	24	23	40	23	24	23	30	28	29	21	265
Nuclear	20	28	48	6	7	5	3	7	1	6	4	2	3	44
Organic	259	403	662	92	109	97	112	81	120	100	82	86	91	970
Pharmaceutical	50	93	143	23	20	21	14	14	18	21	17	20	13	181
Physical	217	337	554	97	80	92	103	91	79	72	67	71	56	808
Polymer	-	-	-	-	-	-	6	19	12	16	18	23	26	120
Theoretical	18	35	53	9	17	8	12	10	11	6	10	8	9	100
Chemistry, general	14	42	56	25	23	48	50	56	45	52	44	58	37	438
Chemistry, other	14	41	55	17	30	38	24	17	9	18	16	14	15	198
EARTH, ATMOS, OCEAN SCI	220	380	600	97	76	120	115	136	125	125	120	88	102	1,104
Applied geo, geo eng(9)	25	36	61	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	-	10	10	4	1	10	5	14	8	7	3	2	2	56
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atmos/meteorol sci, other	-	-	-	-	-	-	-	-	-	9	11	6	13	39
Atmospheric dynamics	-	-	-	-	-	-	-	-	-	3	7	3	10	23
Atmospheric phys/chem	-	-	-	-	-	-	-	-	-	3	1	5	2	11
Environmental sciences(10)	-	-	-	-	-	7	5	7	12	6	6	4	7	54
Geochemistry(11)	-	14	14	9	11	9	9	8	11	10	9	5	8	89
Geology(12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Structural geology(12)	4	13	17	1	1	5	3	3	1	1	3	2	6	26
Geomorph/glacial geology	6	6	12	2	1	1	1	4	5	1	1	2	-	18
Geophysics/seismology(13)	-	-	-	-	-	-	-	-	-	11	17	12	15	55
Geophysics(13)	27	50	77	24	15	22	16	23	31	14	-	-	-	145
Hydrology/water res(14)	4	16	20	5	7	4	10	7	1	4	8	12	4	62
Marine sciences(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marine sciences, other(15)	-	-	-	-	-	-	-	-	-	-	-	-	2	2
Meteorology(16)	25	36	61	12	8	14	13	15	14	9	-	-	-	85
Mineral, petrol, geochem(11)	64	77	141	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	-	10	10	12	8	15	11	11	11	3	5	-	2	78
Oceanography	8	24	32	4	6	6	12	13	12	14	17	14	13	111
Paleontology	13	22	35	1	3	8	2	3	3	4	-	1	1	26
Stratigraphy, sediment	33	38	71	11	6	5	9	6	2	10	10	5	7	71
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earth sciences, general(17)	7	13	20	7	4	4	11	12	7	12	10	9	4	80
Earth sciences, other(17)	4	15	19	5	5	10	8	10	7	4	12	6	6	73
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MATHEMATICS	349	668	1,017	192	217	234	254	295	272	238	221	202	200	2,325
Algebra	39	79	118	19	26	22	20	27	26	24	15	15	16	210
Analysis/funct analysis(18)	62	133	195	38	40	34	45	48	47	27	38	26	32	375
Applied mathematics	45	101	146	24	27	31	35	42	18	27	29	29	36	298
Computing theory	11	47	58	16	21	29	44	48	44	24	18	10	4	258
Geometry	12	23	35	8	13	9	9	12	7	7	8	4	4	81
Logic	9	15	24	5	4	5	4	1	4	8	4	5	3	43
Math probability/stat(19)	109	133	242	23	15	36	46	43	45	57	46	51	53	415
Number theory	14	20	34	3	8	4	4	4	8	4	4	2	1	42
Operations research	-	-	-	-	-	-	-	9	18	9	17	12	12	77
Topology	34	61	95	17	15	15	13	15	16	17	14	8	11	141
Mathematics, general	11	34	45	22	31	28	28	37	34	27	21	27	28	283
Mathematics, other	3	22	25	17	17	21	6	9	5	7	7	13	-	102
COMPUTER & INFO SCI	-	-	-	-	-	-	-	-	-	-	4	31	44	79
Computer sciences	-	-	-	-	-	-	-	-	-	-	4	31	44	79
Information sci/systems(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
NON-U.S. CITIZENS, TOTAL													
TOTAL, S&E	3,662	3,855	3,981	4,298	4,527	4,957	5,128	5,536	6,047	6,499	48,490	7,721	8,504
TOTAL, SCIENCES	2,512	2,612	2,655	2,809	2,984	3,223	3,413	3,649	3,960	4,193	32,010	5,061	5,650
PHYSICAL SCIENCES	577	589	625	659	683	755	891	945	1,001	1,034	7,759	1,232	1,383
Physics/astronomy	240	256	277	307	302	338	405	455	485	488	3,553	605	615
Acoustics	4	3	4	2	7	2	3	4	4	3	36	11	5
Astronomy(1)	6	6	4	5	7	6	7	10	18	12	81	14	13
Astronomy/astrophysics(1)	-	-	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	10	6	7	9	9	10	13	14	9	18	105	20	25
Atomic/molecular	12	13	30	25	18	16	23	29	22	32	220	27	30
Electron(2)	-	-	-	-	2	2	1	-	-	3	8	2	1
Electromagnetism(3)	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	33	27	37	45	50	54	54	65	70	52	487	74	68
Fluids	4	6	6	2	2	5	3	11	7	5	51	6	4
Mechanics(4)	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(5)	20	17	16	26	18	26	39	30	34	29	255	26	27
Optics	15	15	9	24	16	14	13	15	23	26	170	32	29
Plasma	12	11	16	18	13	17	15	28	21	25	176	15	24
Polymer(6)	-	-	-	5	4	6	5	5	12	3	40	7	11
Solid state	56	71	62	69	77	93	123	124	109	138	922	150	202
Theoretical physics(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
Thermal(8)	-	4	-	-	-	-	-	-	-	-	4	-	-
Physics, general	52	64	63	56	57	58	80	82	122	99	733	161	115
Physics, other	16	13	23	21	22	29	26	38	34	43	265	60	61
Chemistry	337	333	348	352	381	417	486	490	516	546	4,206	627	768
Agricultural/food	-	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	29	28	27	36	42	42	48	68	61	63	444	67	81
Inorganic	29	24	37	31	34	46	49	48	53	63	414	54	81
Nuclear	2	1	7	3	7	1	3	1	2	-	27	4	1
Organic	118	97	105	109	110	123	116	127	136	144	1,185	101	194
Pharmaceutical	20	12	17	25	10	14	19	18	23	14	172	20	25
Physical	53	48	53	59	62	59	71	79	83	98	665	106	143
Polymer	30	35	23	22	26	36	25	39	40	34	310	36	58
Theoretical	7	7	8	12	8	7	12	8	12	18	99	16	13
Chemistry, general	39	63	50	31	55	64	111	82	87	91	673	204	151
Chemistry, other	10	18	21	24	27	25	32	20	19	21	217	19	21
EARTH, ATMOS, OCEAN SCI	106	101	110	136	131	151	130	150	168	154	1,337	198	214
Applied geo, geo eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	5	5	9	3	1	1	1	3	1	1	30	1	-
Atmos/meteorol sci, gen(6)	-	-	-	4	1	4	1	8	4	6	28	10	7
Atmos/meteorol sci, other	17	13	6	4	3	3	2	5	1	4	58	1	2
Atmospheric dynamics	8	5	7	7	11	8	6	5	10	7	74	9	12
Atmospheric phys/chem	3	1	-	3	3	1	5	3	9	6	34	9	10
Environmental sciences(10)	6	11	6	14	7	9	5	5	8	12	83	9	5
Geochemistry(11)	6	3	9	4	7	11	11	9	8	7	75	13	10
Geology(12)	-	-	-	16	24	28	14	20	24	17	143	25	37
Structural geology(12)	-	-	2	-	-	-	-	-	-	-	2	-	-
Geomorph/glacial geology	3	1	3	2	1	1	2	3	1	1	18	3	1
Geophysics/seismology(13)	22	17	20	22	20	28	23	34	30	21	237	33	44
Geophysics(13)	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	6	8	10	8	5	8	3	6	9	9	72	4	4
Marine sciences(6)	-	-	-	6	4	4	3	7	5	6	35	10	12
Marine sciences, other(15)	1	3	8	-	-	-	-	-	-	-	12	-	-
Meteorology(16)	-	-	-	5	5	9	13	6	13	5	56	6	13
Mineral, petrol, geochem(11)	-	-	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	2	3	4	4	1	4	3	3	3	4	31	3	6
Oceanography	9	7	8	20	16	14	19	16	19	22	150	36	21
Paleontology	1	-	-	1	3	2	4	2	2	2	17	2	3
Stratigraphy, sediment	2	5	3	5	4	6	2	2	4	5	38	1	4
Geological sciences, gen(17)	-	-	-	4	4	1	2	4	2	9	26	7	4
Geological sciences, oth(17)	-	-	-	1	8	3	1	6	6	7	32	6	12
Earth sciences, general(17)	9	14	9	-	-	-	-	-	-	-	32	-	-
Earth sciences, other(17)	6	5	6	-	-	-	-	-	-	-	17	-	-
Physical sciences, other(6)	-	-	-	3	3	6	10	3	9	3	37	10	7
MATHEMATICS	201	229	233	255	268	280	308	353	349	381	2,857	471	535
Algebra	13	19	14	18	24	23	23	25	24	22	205	18	26
Analysis/funct analysis(18)	23	34	35	31	31	30	40	46	29	54	353	48	76
Applied mathematics	27	34	36	38	33	56	52	56	72	77	481	104	105
Computing theory	2	5	6	3	6	2	6	5	3	3	41	5	4
Geometry	8	4	10	20	10	15	17	19	24	21	148	24	42
Logic	4	1	3	4	11	8	8	10	9	6	64	7	8
Math probability/stat(19)	62	61	61	61	77	78	57	74	81	78	690	96	128
Number theory	7	4	4	9	8	7	6	5	17	6	73	11	9
Operations research	16	18	17	11	12	9	16	16	12	10	137	17	7
Topology	9	11	6	11	12	11	14	10	12	16	112	16	23
Mathematics, general	22	27	30	27	29	29	45	67	53	67	396	110	91
Mathematics, other	8	11	11	22	15	12	24	20	13	21	157	15	16
COMPUTER & INFO SCI	56	60	71	99	106	113	170	175	218	236	1,304	326	400
Computer sciences	56	60	71	90	92	92	154	150	185	210	1,160	292	373
Information sci/systems(6)	-	-	-	9	14	21	16	25	33	26	144	34	27

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
	Year of doctorate													
NON-U.S. CITIZENS, TOTAL														
AGRIC & BIOL SCI	1,780	3,185	4,965	778	833	844	867	907	844	756	764	744	723	8,060
Agricultural sciences	589	1,060	1,649	246	313	317	309	336	337	281	284	310	294	3,027
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agronomy	210	330	540	63	71	51	62	61	61	68	54	52	59	602
Animal breeding/genetics(21)	97	184	281	25	25	17	6	5	4	3	7	4	5	101
Animal nutrition(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sci/nutrition(22)	-	-	-	-	-	24	37	53	46	34	32	38	39	303
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sciences, other(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish/wildlife(23)	14	11	25	5	7	1	7	9	11	4	7	8	4	63
Fisheries science(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife management(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences(24)	-	14	14	13	40	36	52	44	63	38	53	51	43	433
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry science(25)	35	56	91	16	15	18	20	27	24	23	15	24	24	206
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest engineering(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horticulture science	79	126	205	26	27	43	17	23	25	21	20	27	18	247
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phytopathology(26)	123	195	318	36	42	37	32	31	33	31	25	30	25	322
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences(28)	-	19	19	22	33	44	50	50	38	37	38	43	41	396
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agriculture, general	4	17	21	2	1	2	-	5	7	4	6	3	5	35
Agriculture, other	27	108	135	38	52	44	26	28	25	18	27	30	31	319
Biological sciences	1,191	2,125	3,316	532	520	527	558	571	507	475	480	434	429	5,033
Anatomy	28	43	71	15	17	11	7	11	12	6	10	11	11	111
Biochemistry	297	524	821	108	129	98	116	110	107	107	91	102	90	1,058
Biometrics/biostat	16	25	41	9	7	10	9	15	4	9	13	10	8	94
Biophysics	20	55	75	14	15	19	25	22	13	22	26	15	20	191
Botany, other(29)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Botany(29)	106	122	228	24	22	29	19	30	19	22	13	18	16	212
Cell biology(30)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cytology(30)	13	26	39	7	4	2	6	2	9	3	1	3	2	39
Devel bio/embryology(31)	5	11	16	2	3	2	2	2	2	2	-	-	-	15
Ecology	17	29	46	12	5	11	16	14	14	8	13	9	8	110
Endocrinology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Entomology	118	176	294	37	40	43	47	41	37	29	36	31	41	382
Human/animal genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Genetics(32)	126	202	328	38	41	40	35	39	30	33	19	20	20	315
Human/animal pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pathology(33)	20	52	72	12	17	19	20	17	12	15	16	7	12	147
Human/animal pharmacol	47	118	165	29	23	23	38	31	20	21	25	21	19	250
Human/animal physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal physiology(34)	45	152	197	48	42	46	40	40	37	25	43	27	23	371
Animal/plant physiol(34)	36	-	36	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	45	116	161	18	21	18	25	21	20	16	15	9	14	177
Hydrobiology	3	5	8	4	1	1	1	1	-	-	-		-	8
Immunology	-	-	-	-	-	3	3	15	9	17	11	12	12	82
Microbiology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bacteriology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Microbiology/bacteriol(35)	149	267	416	68	45	52	49	61	55	45	39	44	32	490
Molecular biology	-	15	15	14	11	20	16	23	25	17	20	23	18	187
Neurosciences	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutritional sciences(36)	13	-	13	-	-	-	-	-	-	26	30	23	23	102
Parasitology	-	-	-	-	-	-	-	6	4	1	4	3	5	23
Toxicology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology, other(37)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology(37)	71	115	186	24	24	25	25	15	19	15	21	9	14	191
Biological sci, general	3	20	23	16	26	18	27	19	19	21	20	22	22	210
Biological sci, other	13	52	65	33	27	37	32	36	40	15	14	15	19	268

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
NON-U.S. CITIZENS, TOTAL													
AGRIC & BIOL SCI	778	772	743	779	824	930	876	989	1,165	1,191	9,047	1,539	1,714
Agricultural sciences	331	360	283	343	349	398	368	337	416	401	3,586	496	480
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	1	1	2	1
Agronomy	69	64	56	63	67	60	61	51	65	52	608	62	58
Animal breeding/genetics(21)	6	5	2	9	10	10	11	11	13	11	88	6	6
Animal nutrition(22)	-	-	-	13	23	25	18	18	16	18	131	14	20
Animal sci/nutrition(22)	33	59	32	-	-	-	-	-	-	-	124	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	2	4	6	9	9
Poultry science(22)	-	-	-	-	-	-	-	-	6	5	11	9	7
Animal sciences, other(22)	-	-	-	34	30	34	29	23	25	30	205	40	31
Fish/wildlife(23)	14	2	8	-	-	-	-	-	-	-	24	-	-
Fisheries science(23)	-	-	-	13	10	2	9	5	13	14	66	13	13
Wildlife management(23)	-	-	-	6	4	5	2	3	1	-	21	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	9	7	16	16	14
Food sciences(24)	50	55	52	60	51	66	62	67	11	-	474	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	4	10	14	7	11
Food sciences, other(24)	-	-	-	-	-	-	-	-	70	73	143	87	81
Forestry science(25)	18	24	14	23	13	20	26	24	1	-	163	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	4	5	9	8	6
Forest engineering(25)	-	-	-	-	-	-	-	-	-	1	1	1	1
Forest management(25)	-	-	-	-	-	-	-	-	7	5	12	6	9
Wood science(25)	-	-	-	-	-	-	-	-	3	10	13	10	9
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	4	5	9	7	8
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	9	17	26	26	16
Horticulture science	28	37	22	24	16	31	17	24	28	21	248	35	35
Plant breeding/genetics(26)	-	-	-	19	21	29	36	22	31	19	177	30	31
Plant pathology(26)	-	-	-	26	23	27	31	23	21	24	175	26	48
Phytopathology(26)	39	30	26	-	-	-	-	-	-	-	95	-	-
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	3	3	1	1
Plant sciences, other(26)	-	-	-	4	6	9	7	11	9	7	53	8	7
Soil sciences(28)	36	45	32	36	48	46	46	31	7	-	327	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	11	9	20	10	9
Soil sciences, other(28)	-	-	-	-	-	-	-	-	34	36	70	42	37
Agriculture, general	1	4	4	4	-	2	2	2	6	3	28	4	2
Agriculture, other	37	35	35	9	27	32	11	22	6	11	225	17	10
Biological sciences	447	412	460	436	475	532	508	652	749	790	5,461	1,043	1,234
Anatomy	13	7	12	8	9	17	9	12	8	14	109	12	17
Biochemistry	72	74	83	84	88	97	91	114	141	161	1,005	181	231
Biometrics/biostat	9	7	8	7	13	8	9	9	15	11	96	14	26
Biophysics	18	19	17	13	13	9	14	23	18	22	166	42	46
Botany, other(29)	-	-	-	10	12	17	14	18	16	21	108	29	19
Botany(29)	14	14	19	-	-	-	-	-	-	-	47	-	-
Cell biology(30)	-	-	-	8	10	11	12	15	17	19	92	24	38
Cytology(30)	6	5	1	-	-	-	-	-	-	-	12	-	-
Devel bio/embryology(31)	2	1	2	2	2	1	-	2	1	1	14	3	3
Ecology	13	12	13	17	15	19	25	16	28	28	186	24	27
Endocrinology(6)	-	-	-	5	7	3	3	4	4	8	34	5	9
Entomology	38	34	40	35	42	32	26	25	23	28	323	40	40
Human/animal genetics(32)	-	-	-	6	6	14	8	15	19	14	82	25	39
Plant genetics(32)	-	-	-	9	3	8	4	4	12	8	48	9	10
Genetics(32)	28	18	24	-	-	-	-	-	-	-	70	-	-
Human/animal pathology(33)	-	-	-	18	10	15	10	26	20	19	118	31	28
Plant pathology(33)	-	-	-	3	8	11	7	13	7	4	53	14	23
Pathology(33)	18	18	15	-	-	-	-	-	-	-	51	-	-
Human/animal pharmacol	32	27	21	16	31	27	22	33	29	36	274	53	73
Human/animal physiol(34)	-	-	-	24	27	33	27	36	35	44	226	72	55
Animal physiology(34)	22	23	38	-	-	-	-	-	-	-	83	-	-
Animal/plant physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	8	14	12	15	11	12	7	14	27	10	130	10	28
Hydrobiology	-	-	-	-	-	-	-	-	-	-	-	-	-
Immunology	15	10	16	21	14	17	17	22	20	18	170	26	41
Microbiology(35)	-	-	-	37	42	48	54	56	53	71	361	95	106
Bacteriology(35)	-	-	-	2	1	2	4	1	2	2	14	2	2
Microbiology/bacteriol(35)	41	45	45	-	-	-	-	-	-	-	131	-	-
Molecular biology	25	14	21	22	22	34	37	57	81	93	406	99	141
Neurosciences	-	-	8	13	12	17	10	16	19	28	123	34	44
Nutritional sciences(36)	13	19	24	24	20	26	23	30	41	33	253	34	37
Parasitology	6	3	4	2	3	5	4	2	6	8	43	5	10
Toxicology(6)	-	-	-	7	4	6	6	11	11	7	52	17	14
Zoology, other(37)	-	-	-	9	13	11	17	13	20	13	96	15	14
Zoology(37)	13	13	10	-	-	-	-	-	-	-	36	-	-
Biological sci, general	24	21	17	13	27	20	33	39	44	50	288	96	74
Biological sci, other	17	14	10	6	10	12	15	26	32	19	161	32	39

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate										
				1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
NON-U.S. CITIZENS, TOTAL														
SOCIAL SCIENCES	976	1,859	2,835	595	647	681	752	722	724	739	724	702	695	6,981
Agricultural economics	-	33	33	37	62	57	73	70	70	66	60	65	76	636
Anthropology	33	60	93	23	23	18	26	28	31	40	38	46	43	316
Area studies	1	10	11	9	9	4	4	8	9	5	1	7	1	57
Criminology(38)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Demography(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Econometrics	25	49	74	9	7	13	11	8	14	11	13	8	7	101
Economics	439	794	1,233	203	203	214	260	235	217	239	244	230	247	2,292
Geography	64	84	148	29	35	38	43	32	29	28	35	37	20	326
History of science(39)	-	-	-	-	3	3	3	6	2	7	1	4	2	31
International relations	68	113	181	16	30	28	19	30	25	32	19	29	23	251
Linguistics	61	112	173	34	42	38	51	44	47	41	51	49	48	445
Pol sci/government(40)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Political science(40)	-	-	-	-	-	-	-	-	-	97	99	80	75	351
Pol sci, public admin(40)	171	290	461	77	75	111	112	117	112	7	-	-	-	611
Public policy studies(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sociology	103	218	321	83	91	88	90	95	111	103	95	80	90	926
Statistics	-	40	40	43	35	32	28	16	19	12	17	20	14	236
Urban studies(41)	-	-	-	-	7	14	11	15	20	23	24	17	27	158
Social sciences, general	2	1	3	-	2	3	3	3	3	5	4	5	6	34
Social sciences, other	9	55	64	32	23	20	18	15	15	23	23	25	16	210
PSYCHOLOGY	231	328	559	99	121	129	130	131	156	127	120	115	118	1,246
Clinical	71	72	143	14	20	12	25	26	31	14	17	25	15	199
Cognitive(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Comparative(42)	5	4	9	2	2	-	1	-	1	3	1	-	-	10
Counseling(43)	9	18	27	4	10	7	7	8	11	10	7	10	12	86
Developmental(44)	6	21	27	6	7	8	11	10	14	8	11	5	11	91
Educational	10	15	25	6	6	11	9	7	4	7	9	8	12	79
Exper, compar, physiol(42)	25	-	25	-	-	-	-	-	-	-	-	-	-	-
Experimental(42)	32	65	97	18	20	17	22	18	18	16	23	16	15	183
Indust/organizational(45)	9	15	24	5	7	5	5	8	7	10	6	5	5	63
Physiological(42)	7	26	33	8	8	9	7	9	9	6	7	9	4	76
Quantitative(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Personality	8	6	14	3	4	4	2	2	1	5	1	2	1	25
Psychometrics	10	13	23	3	3	7	3	3	3	3	3	2	2	32
School	1	3	4	-	-	2	2	4	2	6	1	2	3	22
Social	34	38	72	23	17	24	18	21	28	23	11	12	10	187
Psychology, general	3	23	26	4	14	9	12	10	17	12	14	6	14	112
Psychology, other	1	9	10	3	3	14	6	5	10	4	9	13	14	81
TOTAL, ENGINEERING	1,326	3,155	4,481	908	1,056	1,143	1,186	1,231	1,241	1,206	1,101	1,095	1,140	11,307
Aerospace,aero/astronaut(46)	62	161	223	46	53	54	52	45	44	36	55	53	50	488
Agricultural	25	45	70	16	19	21	24	27	22	15	16	22	43	225
Bioengineering/biomed(47)	-	3	3	7	11	13	13	17	12	12	12	17	12	126
Ceramic	14	20	34	5	5	10	5	4	7	12	11	5	6	70
Chemical	216	386	602	134	121	127	161	182	176	150	142	129	144	1,466
Civil	229	538	767	144	192	170	177	157	149	175	153	137	128	1,582
Communications(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Computer	-	-	-	-	-	-	-	-	42	51	48	36	41	218
Electrical/electronics(48)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical(48)	259	587	846	155	186	209	210	203	217	204	181	177	182	1,924
Electronics(48)	64	145	209	31	28	32	37	27	30	32	35	23	43	318
Engineering mechanics	119	307	426	65	81	89	74	69	76	54	43	46	43	640
Engineering physics(49)	45	123	168	6	10	14	9	10	7	2	2	3	7	70
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Environmental health eng(50)	25	58	83	11	9	18	27	26	22	28	18	19	12	190
Fuel tech/petro eng(9)	-	13	13	7	8	2	7	12	8	3	2	2	3	54
Industrial	14	66	80	38	25	38	20	35	28	30	31	16	32	293
Materials science	-	3	3	6	21	36	46	55	48	54	56	53	65	440
Mechanical	137	323	460	83	102	126	126	145	131	120	106	129	126	1,194
Metallurgical(51)	84	199	283	51	70	66	50	56	56	57	40	47	44	537
Mining/mineral(52)	-	5	5	6	10	4	8	1	3	5	1	4	2	44
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(49)	-	29	29	32	17	31	35	33	28	53	33	44	33	339
Ocean(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operations research	-	-	-	-	1	20	35	38	43	29	29	35	28	258
Petroleum(53)	-	-	-	-	-	-	5	8	10	11	13	18	18	83
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Systems(54)	-	-	-	-	-	-	-	-	28	25	28	31	27	139
Engineering, general	1	27	28	10	10	4	14	18	13	18	11	13	13	124
Engineering, other	32	117	149	55	77	59	51	63	41	30	35	36	38	485
TOTAL, NON-S&E(55)	1,398	2,858	4,256	853	979	1,064	1,128	1,093	1,194	1,184	1,165	1,208	1,305	11,173
TOTAL, ALL FIELDS	7,536	14,664	22,200	4,148	4,597	4,924	5,172	5,185	5,250	5,023	4,816	4,765	4,907	48,787

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
NON-U.S. CITIZENS, TOTAL													
SOCIAL SCIENCES	673	734	761	738	833	854	892	893	914	1,037	8,329	1,105	1,223
Agricultural economics	61	76	82	68	80	52	66	55	55	64	659	70	87
Anthropology	31	35	36	33	36	37	46	38	44	46	382	42	50
Area studies	2	6	2	1	6	7	9	3	1	2	39	5	10
Criminology(38)	4	2	-	6	9	9	-	2	7	2	41	4	12
Demography(6)	-	-	-	12	10	13	8	16	13	8	80	13	14
Econometrics	8	10	11	12	15	13	16	16	20	20	141	16	14
Economics	238	255	257	261	302	326	314	324	346	368	2,991	414	457
Geography	22	22	28	32	34	34	38	31	39	35	315	46	32
History of science(39)	-	4	3	-	2	5	6	2	1	3	26	6	8
International relations	31	20	29	23	34	21	29	29	25	39	280	44	23
Linguistics	52	50	57	51	61	61	70	77	70	79	628	68	97
Pol sci/government(40)	-	-	-	67	91	95	94	107	106	126	686	125	126
Political science(40)	66	77	81	-	-	-	-	-	-	-	224	-	-
Pol sci, public admin(40)	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	15	11	12	15	16	13	15	97	28	39
Sociology	96	96	82	81	76	77	92	82	96	119	897	121	141
Statistics	13	20	26	24	23	39	35	32	25	44	281	45	24
Urban studies(41)	25	32	32	22	22	30	17	23	25	27	255	21	39
Social sciences, general	4	4	4	3	6	4	9	13	6	7	60	11	7
Social sciences, other	20	25	31	27	15	19	28	27	22	33	247	26	43
PSYCHOLOGY	121	127	112	143	139	140	146	144	145	160	1,377	190	181
Clinical	22	21	25	26	25	23	33	39	40	32	286	53	40
Cognitive(6)	-	-	-	5	11	3	6	9	13	11	58	14	14
Comparative(42)	-	-	1	-	1	-	1	-	-	2	5	1	-
Counseling(43)	4	19	11	16	14	11	20	12	15	15	137	14	9
Developmental(44)	9	6	11	7	13	11	15	15	9	13	109	14	8
Educational	6	8	3	16	15	6	5	5	4	11	79	4	12
Exper, compar, physiol(42)	-	-	-	-	-	-	-	-	-	-	-	-	-
Experimental(42)	19	13	12	16	6	15	14	9	12	12	128	18	20
Indust/organizational(45)	2	4	4	4	6	4	2	4	6	7	43	7	9
Physiological(42)	5	5	4	8	3	10	2	8	7	1	53	4	7
Quantitative(6)	-	-	-	-	-	2	2	2	1	3	10	4	2
Personality	1	1	1	1	1	2	1	1	1	5	15	2	-
Psychometrics	2	3	-	-	-	2	-	-	1	1	9	3	3
School	3	1	3	4	2	2	3	3	3	2	26	2	2
Social	8	11	14	14	9	15	18	13	8	18	128	12	15
Psychology, general	13	17	9	16	13	18	14	16	18	15	149	22	25
Psychology, other	27	18	14	10	20	16	10	8	7	12	142	16	15
TOTAL, ENGINEERING	1,150	1,243	1,326	1,489	1,543	1,734	1,715	1,887	2,087	2,306	16,480	2,660	2,854
Aerospace,aero/astronaut(46)	45	41	48	62	69	68	65	67	62	92	619	94	91
Agricultural	40	46	26	40	45	36	26	38	28	47	372	47	52
Bioengineering/biomed(47)	12	15	10	16	21	18	10	23	31	32	188	48	56
Ceramic	10	13	8	11	10	6	10	16	14	16	114	20	28
Chemical	153	155	151	176	178	211	226	230	252	245	1,977	240	282
Civil	136	169	185	217	207	230	234	256	294	306	2,234	321	338
Communications(6)	-	-	-	12	4	19	10	20	11	15	91	26	14
Computer	34	41	50	52	29	36	48	39	69	75	473	76	112
Electrical/electronics(48)	-	-	-	230	306	338	345	324	444	507	2,494	606	667
Electrical(48)	160	185	240	33	1	1	-	-	-	-	620	-	-
Electronics(48)	31	22	29	7	-	-	-	-	-	-	89	-	-
Engineering mechanics	45	37	54	41	51	52	51	69	65	63	528	70	71
Engineering physics(49)	4	10	1	2	2	4	3	-	3	6	35	8	11
Engineering science(6)	-	-	-	15	18	17	11	11	11	15	98	19	19
Environmental health eng(50)	14	18	23	12	23	17	18	18	18	16	177	24	35
Fuel tech/petro eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	38	27	39	56	48	57	66	69	77	99	576	92	104
Materials science	71	53	67	74	91	92	94	118	118	115	893	166	189
Mechanical	144	151	171	179	193	245	238	301	339	361	2,322	462	445
Metallurgical(51)	47	61	46	50	45	50	66	63	48	43	519	48	44
Mining/mineral(52)	3	3	1	13	11	9	14	14	11	20	99	23	24
Naval arch/marine engin(2)	-	-	-	4	3	6	6	2	6	7	34	5	4
Nuclear(49)	50	63	57	60	56	53	51	43	42	41	516	46	40
Ocean(6)	-	-	-	8	7	22	4	17	10	8	76	12	16
Operations research	20	40	30	21	20	29	21	24	19	38	262	26	43
Petroleum(53)	23	16	15	14	9	16	11	16	18	14	152	30	18
Polymer(6)	-	-	-	12	21	24	19	26	16	39	157	30	24
Systems(54)	26	34	27	30	28	34	16	26	26	12	259	25	25
Engineering, general	11	11	5	10	18	10	20	23	22	24	154	44	28
Engineering, other	33	32	43	32	29	34	32	34	33	50	352	52	74
TOTAL, NON-S&E(55)	1,272	1,366	1,451	1,476	1,529	1,595	1,580	1,652	1,770	1,774	15,465	2,048	2,162
TOTAL, ALL FIELDS	4,934	5,221	5,432	5,774	6,056	6,552	6,708	7,188	7,817	8,273	63,955	9,769	10,666

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate 1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
NON-U.S. CITIZENS, PERMANENT VISAS														
TOTAL, S&E	1,284	3,333	4,617	1,242	1,491	1,648	1,579	1,400	1,269	1,106	990	992	945	12,662
TOTAL, SCIENCES	921	2,195	3,116	808	957	1,024	1,018	883	849	715	664	667	622	8,207
PHYSICAL SCIENCES	261	621	882	263	305	322	303	257	236	217	191	183	165	2,442
Physics/astronomy	101	285	386	99	131	125	126	98	109	76	86	64	70	984
Acoustics	1	2	3	-	3	2	1	1	-	-	-	-	-	7
Astronomy(1)	-	1	1	2	4	5	2	-	2	1	2	1	4	23
Astronomy/astrophysics(1)	2	11	13	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	-	1	1	3	-	2	-	1	3	2	1	3	-	15
Atomic/molecular	10	32	42	6	2	9	8	7	11	5	3	8	2	61
Electron(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electromagnetism(3)	7	8	15	2	2	-	1	1	2	3	2	-	-	13
Elementary particle	17	47	64	12	21	14	21	10	8	6	8	2	7	109
Fluids	4	17	21	4	5	4	4	4	-	3	1	1	2	28
Mechanics(4)	1	4	5	1	-	-	1	-	-	-	-	-	-	2
Nuclear(5)	17	40	57	15	19	14	16	10	10	4	9	4	4	105
Optics	-	3	3	1	3	-	3	1	4	2	1	2	2	19
Plasma	-	2	2	10	6	9	6	4	6	6	8	4	4	63
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid state	21	78	99	18	29	44	33	33	42	25	22	19	25	290
Theoretical physics(7)	10	-	10	-	-	-	-	-	-	-	-	-	-	-
Thermal(8)	2	-	2	-	2	1	4	3	-	-	2	1	-	13
Physics, general	1	19	20	19	15	12	17	13	14	15	17	12	14	148
Physics, other	8	20	28	6	20	9	9	10	7	4	10	7	6	88
Chemistry	160	336	496	164	174	197	177	159	127	141	105	119	95	1,458
Agricultural/food	6	34	40	15	14	7	4	1	2	2	-	1	-	46
Analytical	9	7	16	9	10	8	8	9	4	3	9	8	12	80
Inorganic	14	29	43	11	14	20	11	9	6	17	3	8	8	107
Nuclear	4	8	12	3	3	3	3	3	-	3	1	2	1	22
Organic	61	118	179	39	47	56	49	43	41	43	33	28	26	405
Pharmaceutical	6	24	30	11	12	14	9	12	12	14	9	17	8	118
Physical	51	90	141	52	34	49	49	46	34	26	27	22	21	360
Polymer	-	-	-	-	-	-	4	8	5	7	5	11	4	44
Theoretical	3	7	10	3	12	2	6	4	5	1	2	-	1	36
Chemistry, general	1	7	8	11	9	22	19	17	14	17	8	15	10	142
Chemistry, other	5	12	17	10	19	16	15	7	4	8	8	7	4	98
EARTH, ATMOS, OCEAN SCI	39	87	126	29	35	56	45	45	36	31	22	22	33	354
Applied geo, geo eng(9)	4	8	12	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	-	1	1	1	1	3	2	3	1	1	-	1	1	14
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atmos/meteorol sci, other	-	-	-	-	-	-	-	-	-	3	3	5	2	13
Atmospheric dynamics	-	-	-	-	-	-	-	-	-	-	1	1	5	7
Atmospheric phys/chem	-	-	-	-	-	-	-	-	-	1	-	3	1	5
Environmental sciences(10)	-	-	-	-	-	3	3	1	4	2	2	3	5	23
Geochemistry(11)	-	6	6	1	5	3	3	1	3	3	6	1	1	27
Geology(12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Structural geology(12)	2	3	5	1	-	1	-	-	-	-	-	-	1	3
Geomorph/glacial geology	-	1	1	-	-	-	-	1	4	-	-	1	-	6
Geophysics/seismology(13)	-	-	-	-	-	-	-	-	-	2	1	-	5	8
Geophysics(13)	3	12	15	9	10	10	5	10	10	4	-	-	-	58
Hydrology/water res(14)	1	4	5	1	2	1	6	1	1	-	-	3	1	16
Marine sciences(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marine sciences, other(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Meteorology(16)	4	9	13	5	6	11	7	8	3	4	-	-	-	44
Mineral, petrol, geochem(11)	12	15	27	-	-	-	-	-	-	-	-	-	-	-
Mineralogy, petrology(11)	-	2	2	5	3	8	3	3	1	1	1	-	1	26
Oceanography	3	6	9	1	3	3	5	7	5	5	5	-	2	36
Paleontology	2	3	5	-	2	3	1	2	1	1	-	-	-	10
Stratigraphy, sediment	5	7	12	3	3	5	3	2	-	1	-	2	4	23
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earth sciences, general(17)	1	5	6	2	-	1	4	4	2	3	1	2	2	21
Earth sciences, other(17)	2	5	7	-	-	4	3	2	1	-	2	-	2	14
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MATHEMATICS	55	177	232	58	65	65	81	71	75	55	54	47	51	622
Algebra	2	15	17	5	10	5	9	9	6	5	3	2	6	60
Analysis/funct analysis(18)	9	35	44	10	13	8	13	14	11	2	5	7	10	93
Applied mathematics	13	36	49	6	9	11	11	11	7	4	12	5	7	83
Computing theory	2	14	16	8	5	8	19	11	17	8	6	3	1	86
Geometry	1	4	5	2	6	2	3	4	3	-	1	-	-	21
Logic	-	1	1	1	-	-	1	-	-	1	-	-	-	3
Math probability/stat(19)	19	35	54	9	6	13	17	10	14	12	15	13	16	125
Number theory	1	5	6	-	2	1	-	-	2	1	-	1	-	7
Operations research	-	-	-	-	-	-	-	-	3	5	7	4	2	21
Topology	4	14	18	5	3	6	3	4	4	5	1	2	3	36
Mathematics, general	3	9	12	4	9	7	4	5	7	6	3	6	6	57
Mathematics, other	1	9	10	8	2	4	1	3	1	6	1	4	-	30
COMPUTER & INFO SCI	-	-	-	-	-	-	-	-	-	-	1	5	12	18
Computer sciences	-	-	-	-	-	-	-	-	-	-	1	5	12	18
Information sci/systems(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS													
TOTAL, S&E	952	893	854	898	835	929	987	1,086	1,128	1,121	9,683	1,186	1,252
TOTAL, SCIENCES	653	592	558	579	561	614	644	731	762	756	6,450	799	871
PHYSICAL SCIENCES	151	147	119	120	119	135	133	147	136	146	1,353	167	178
Physics/astronomy	51	53	35	51	36	48	40	56	62	61	493	69	69
Acoustics	2	2	1	-	1	-	-	-	1	-	7	3	2
Astronomy(1)	3	1	-	-	-	-	-	-	6	3	13	1	1
Astronomy/astrophysics(1)	-	-	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	2	3	1	2	1	2	3	1	1	1	17	3	1
Atomic/molecular	3	2	7	7	2	1	-	5	3	5	35	2	5
Electron(2)	-	-	-	-	-	1	-	-	-	1	2	-	-
Electromagnetism(3)	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	7	6	2	5	7	6	5	11	9	9	67	10	5
Fluids	-	1	2	-	-	-	-	1	1	1	6	1	1
Mechanics(4)	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(5)	4	1	2	7	4	4	4	6	2	6	40	2	3
Optics	5	4	-	5	4	1	1	1	9	3	33	3	5
Plasma	4	1	1	1	-	2	2	6	4	6	27	2	2
Polymer(6)	-	-	-	1	-	3	1	-	1	-	6	-	1
Solid state	11	13	11	14	9	14	13	12	10	16	123	18	20
Theoretical physics(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
Thermal(8)	-	1	-	-	-	-	-	-	-	-	1	-	-
Physics, general	7	15	5	3	6	12	10	10	12	9	89	16	12
Physics, other	3	3	3	6	2	2	1	3	3	1	27	8	11
Chemistry	100	94	84	69	83	87	93	91	74	85	860	98	109
Agricultural/food	-	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	11	8	8	6	5	6	5	12	12	4	77	16	12
Inorganic	7	6	8	6	6	8	6	9	9	10	75	6	6
Nuclear	-	-	2	-	1	-	-	-	-	-	3	-	-
Organic	37	33	20	25	28	36	27	23	12	27	268	22	39
Pharmaceutical	6	5	6	7	3	5	9	3	4	4	52	4	2
Physical	15	13	19	8	16	5	15	16	11	17	135	14	25
Polymer	13	13	6	6	11	11	7	7	8	6	88	6	3
Theoretical	-	1	-	2	1	2	1	1	-	-	8	3	1
Chemistry, general	8	8	11	5	7	9	15	17	15	16	111	23	18
Chemistry, other	3	7	4	4	5	5	8	3	3	1	43	4	3
EARTH, ATMOS, OCEAN SCI	26	16	29	30	25	32	24	25	31	30	268	23	26
Applied geo, geo eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	-	1	1	1	-	-	1	-	-	-	4	-	-
Atmos/meteorol sci, gen(6)	-	-	-	1	-	-	-	1	1	-	3	-	2
Atmos/meteorol sci, other	3	1	3	1	-	-	-	-	1	1	10	-	-
Atmospheric dynamics	2	1	2	2	3	2	-	1	3	2	18	2	-
Atmospheric phys/chem	2	-	-	1	1	-	2	-	1	2	9	1	1
Environmental sciences(10)	3	2	-	5	2	3	1	2	2	4	24	2	1
Geochemistry(11)	-	2	2	1	2	2	5	1	2	1	18	2	2
Geology(12)	-	-	-	1	2	6	6	4	5	3	27	2	5
Structural geology(12)	-	-	1	-	-	-	-	-	-	-	1	-	-
Geomorph/glacial geology	-	-	1	1	-	-	-	1	-	1	4	2	-
Geophysics/seismology(13)	6	5	7	6	5	6	1	7	4	1	48	2	8
Geophysics(13)	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	1	-	4	-	1	2	2	-	-	-	10	-	-
Marine sciences(6)	-	-	-	2	-	-	-	1	-	-	3	2	1
Marine sciences, other(15)	1	-	2	-	-	-	-	-	-	-	3	-	-
Meteorology(16)	-	-	-	1	-	3	1	-	-	-	5	-	1
Mineral, petrol, geochem(11)	-	-	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	1	-	1	-	-	1	1	1	1	-	6	-	2
Oceanography	3	1	1	4	2	1	2	3	3	9	29	3	2
Paleontology	-	-	-	1	-	1	-	-	-	1	3	-	-
Stratigraphy, sediment	-	-	1	-	2	3	1	1	1	2	11	1	-
Geological sciences, gen(17)	-	-	-	2	3	-	-	-	-	1	6	-	-
Geological sciences, oth(17)	-	-	-	-	1	-	-	2	3	1	7	-	1
Earth sciences, general(17)	2	2	3	-	-	-	-	-	-	-	7	-	-
Earth sciences, other(17)	2	1	-	-	-	-	-	-	-	-	3	-	-
Physical sciences, other(6)	-	-	-	-	1	2	1	-	4	1	9	4	-
MATHEMATICS	62	43	41	46	36	42	36	51	44	35	436	47	55
Algebra	3	5	2	2	3	2	1	1	3	2	24	3	2
Analysis/funct analysis(18)	6	4	4	3	1	3	7	4	7	6	45	3	5
Applied mathematics	9	7	12	9	7	10	4	8	10	6	82	17	8
Computing theory	1	2	2	-	1	-	1	2	-	-	9	2	-
Geometry	4	2	2	2	-	1	3	-	2	2	18	1	2
Logic	3	-	2	-	2	2	2	2	1	-	14	1	2
Math probability/stat(19)	23	11	8	15	13	17	4	16	8	10	125	8	20
Number theory	1	1	1	2	1	-	1	1	2	-	10	-	1
Operations research	4	4	2	1	-	1	5	6	1	1	25	1	2
Topology	3	1	1	1	1	2	1	-	3	3	16	-	2
Mathematics, general	4	4	3	4	3	4	4	7	6	3	42	10	10
Mathematics, other	1	2	2	7	4	-	3	4	1	2	26	1	1
COMPUTER & INFO SCI	13	20	12	27	17	24	47	32	42	58	292	55	62
Computer sciences	13	20	12	22	14	21	42	28	33	47	252	44	60
Information sci/systems(6)	-	-	-	5	3	3	5	4	9	11	40	11	2

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate 1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
NON-U.S. CITIZENS, PERMANENT VISAS														
AGRIC & BIOL SCI	279	640	919	218	284	307	319	273	260	199	189	185	161	2,395
Agricultural sciences	69	133	202	47	76	85	75	65	70	37	27	43	29	554
Agronomy	22	33	55	12	14	10	10	3	7	2	4	5	2	69
Animal breeding/genetics(21)	16	21	37	6	4	4	1	2	-	-	-	-	1	18
Animal nutrition(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sci/nutrition(22)	-	-	-	-	-	6	6	14	11	8	5	4	5	59
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sciences, other(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish/wildlife(23)	-	3	3	1	3	-	3	2	6	-	2	-	-	17
Fisheries science(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife management(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences(24)	-	2	2	7	15	16	24	16	26	13	7	17	8	149
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry science(25)	8	11	19	5	3	7	4	4	3	1	4	2	2	35
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horticulture science	11	16	27	4	9	14	2	6	3	1	-	4	2	45
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phytopathology(26)	9	22	31	4	11	9	9	6	4	5	-	1	4	53
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences(28)	-	3	3	2	6	5	9	5	8	5	1	3	3	47
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agriculture, general	1	4	5	-	-	-	-	1	-	1	-	-	-	2
Agriculture, other	2	18	20	6	11	14	7	6	2	1	4	7	2	60
Biological sciences	210	507	717	171	208	222	244	208	190	162	162	142	132	1,841
Anatomy	4	16	20	5	8	7	4	7	5	5	4	2	6	53
Biochemistry	69	139	208	39	63	52	65	44	50	42	37	36	39	467
Biometrics/biostat	1	8	9	5	2	4	4	3	-	2	3	3	5	31
Biophysics	4	21	25	9	6	5	8	6	4	12	8	10	7	75
Botany, other(29)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Botany(29)	12	19	31	5	6	10	4	8	2	5	1	3	1	45
Cell biology(30)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cytology(30)	5	10	15	3	1	2	3	2	3	3	-	-	2	19
Devel bio/embryology(31)	2	2	4	-	1	-	1	-	-	-	-	-	-	2
Ecology	4	6	10	2	-	2	3	2	3	4	2	1	3	22
Endocrinology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Entomology	8	27	35	7	10	12	12	9	3	3	3	9	5	73
Human/animal genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Genetics(32)	15	27	42	7	7	16	10	10	5	3	8	5	3	74
Human/animal pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pathology(33)	3	14	17	4	7	11	13	8	7	7	8	3	2	70
Human/animal pharmacol	13	40	53	10	17	10	19	15	12	10	14	9	1	117
Human/animal physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal physiology(34)	12	43	55	15	18	22	18	17	18	8	12	8	9	145
Animal/plant physiol(34)	7	-	7	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	6	17	23	3	4	4	7	2	6	5	2	3	1	37
Hydrobiology	-	2	2	3	-	-	-	1	-	-	-	-	-	4
Immunology	-	-	-	-	-	1	1	9	4	5	5	6	9	40
Microbiology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bacteriology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Microbiology/bacteriol(35)	28	68	96	24	22	21	29	26	28	19	17	13	13	212
Molecular biology	-	5	5	7	6	10	6	12	9	8	7	9	3	77
Neurosciences	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutritional sciences(36)	4	-	4	-	-	-	-	-	-	10	8	6	9	33
Parasitology	-	-	-	-	-	-	-	3	1	1	2	-	-	7
Toxicology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology, other(37)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology(37)	9	28	37	5	9	10	12	2	3	1	8	3	5	58
Biological sci, general	-	3	3	6	10	7	14	6	8	4	9	7	5	76
Biological sci, other	4	12	16	12	11	16	11	16	19	5	4	6	4	104

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS													
AGRIC & BIOL SCI	186	159	140	150	149	151	165	208	263	227	1,798	246	263
Agricultural sciences	35	35	23	36	35	43	48	48	71	45	419	57	56
Agronomy	5	4	3	3	7	2	5	5	10	4	48	7	5
Animal breeding/genetics(21)	1	1	-	2	1	1	1	2	1	1	11	-	-
Animal nutrition(22)	-	-	-	2	3	-	2	2	2	4	15	3	5
Animal sci/nutrition(22)	3	5	4	-	-	-	-	-	-	-	12	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	1	2
Poultry science(22)	-	-	-	-	-	-	-	-	3	-	3	1	2
Animal sciences, other(22)	-	-	-	3	2	6	5	3	6	5	30	3	3
Fish/wildlife(23)	1	-	-	-	-	-	-	-	-	-	1	-	-
Fisheries science(23)	-	-	-	4	1	-	2	1	2	1	11	2	2
Wildlife management(23)	-	-	-	-	1	1	-	2	-	-	4	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	2	-	2	4	2
Food sciences(24)	12	6	7	16	4	13	8	14	1	-	81	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	3	1	4	1	1
Food sciences, other(24)	-	-	-	-	-	-	-	-	12	11	23	17	12
Forestry science(25)	-	3	1	3	1	1	2	3	-	-	14	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	-	1	1	-	-
Forest management(25)	-	-	-	-	-	-	-	-	2	-	2	1	2
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	1	-
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	1	1	2	1	3
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	1	2	3	1	2
Horticulture science	1	5	2	2	1	4	2	6	5	4	32	4	3
Plant breeding/genetics(26)	-	-	-	-	2	4	3	4	3	2	18	3	2
Plant pathology(26)	-	-	-	1	2	2	4	2	2	2	15	3	5
Phytopathology(26)	2	3	2	-	-	-	-	-	-	-	7	-	-
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	1	1	-	-
Plant sciences, other(26)	-	-	-	-	2	1	-	1	2	-	6	-	1
Soil sciences(28)	4	5	2	-	4	5	10	3	1	-	34	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	1	1	2	-	1
Soil sciences, other(28)	-	-	-	-	-	-	-	-	10	2	12	4	2
Agriculture, general	-	-	1	-	-	1	-	-	-	1	3	-	-
Agriculture, other	6	3	1	-	4	2	4	-	1	1	22	-	1
Biological sciences	151	124	117	114	114	108	117	160	192	182	1,379	189	207
Anatomy	4	3	2	1	1	6	-	4	4	5	30	3	2
Biochemistry	19	31	34	30	26	28	19	19	31	34	271	32	38
Biometrics/biostat	3	-	1	3	3	2	-	2	5	6	25	3	3
Biophysics	10	6	2	2	4	-	3	5	1	3	36	5	4
Botany, other(29)	-	-	-	1	3	-	4	4	3	3	18	2	2
Botany(29)	3	2	2	-	-	-	-	-	-	-	7	-	-
Cell biology(30)	-	-	-	1	4	4	3	6	3	7	28	5	7
Cytology(30)	4	1	-	-	-	-	-	-	-	-	5	-	-
Devel bio/embryology(31)	2	-	1	-	-	1	-	-	1	-	5	1	1
Ecology	4	2	2	4	3	2	2	3	6	4	32	4	4
Endocrinology(6)	-	-	-	2	5	-	-	-	-	-	7	4	1
Entomology	7	7	3	4	3	-	5	-	4	4	37	7	2
Human/animal genetics(32)	-	-	-	3	3	3	3	5	7	3	27	6	6
Plant genetics(32)	-	-	-	-	1	2	1	-	-	-	4	-	-
Genetics(32)	6	3	6	-	-	-	-	-	-	-	15	-	-
Human/animal pathology(33)	-	-	-	4	2	2	1	12	7	7	35	7	1
Plant pathology(33)	-	-	-	-	-	1	1	3	2	1	8	2	1
Pathology(33)	8	2	3	-	-	-	-	-	-	-	13	-	-
Human/animal pharmacol	17	11	7	3	7	8	9	12	9	6	89	10	9
Human/animal physiol(34)	-	-	-	5	7	9	8	12	7	14	62	17	9
Animal physiology(34)	6	9	7	-	-	-	-	-	-	-	22	-	-
Animal/plant physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	4	3	4	3	1	-	1	5	7	2	30	1	3
Hydrobiology	-	-	-	-	-	-	-	-	-	-	-	-	-
Immunology	9	4	5	4	4	7	5	3	9	7	57	4	6
Microbiology(35)	-	-	-	10	10	10	14	11	18	18	91	17	25
Bacteriology(35)	-	-	-	1	1	-	2	-	-	-	4	-	1
Microbiology/bacteriol(35)	20	13	12	-	-	-	-	-	-	-	45	-	-
Molecular biology	7	7	3	6	6	4	9	9	19	20	90	13	28
Neurosciences	-	-	7	4	2	5	3	6	6	9	42	6	8
Nutritional sciences(36)	4	5	6	8	5	2	6	10	13	8	67	8	10
Parasitology	1	-	-	-	-	2	-	1	2	1	7	-	3
Toxicology(6)	-	-	-	3	2	-	2	7	6	2	22	3	3
Zoology, other(37)	-	-	-	4	3	2	4	2	3	1	19	3	4
Zoology(37)	3	2	3	-	-	-	-	-	-	-	8	-	-
Biological sci, general	6	8	6	4	7	6	6	8	10	9	70	22	15
Biological sci, other	4	5	1	4	1	2	6	11	9	8	51	4	11

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

	Year of doctorate													
Citizenship status and subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
NON-U.S. CITIZENS, PERMANENT VISAS														
SOCIAL SCIENCES	208	549	757	199	218	223	220	190	187	172	160	171	155	1,895
Agricultural economics	-	7	7	4	12	8	16	8	12	7	6	3	7	83
Anthropology	6	26	32	8	12	10	10	11	8	12	13	14	16	114
Area studies	-	4	4	2	6	2	2	3	5	3	-	3	-	26
Criminology(38)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Demography(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Econometrics	4	16	20	3	3	7	1	2	5	3	2	1	2	29
Economics	87	200	287	62	57	56	77	53	46	45	43	52	50	541
Geography	16	29	45	9	14	11	9	6	10	8	12	9	4	92
History of science(39)	-	-	-	-	-	-	2	3	1	3	-	2	-	11
International relations	20	49	69	6	13	15	5	7	8	6	4	10	6	80
Linguistics	15	37	52	12	12	14	16	13	14	8	12	9	12	122
Pol sci/government(40)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Political science(40)	-	-	-	-	-	-	-	-	-	22	32	28	14	96
Pol sci, public admin(40)	29	94	123	28	38	42	32	42	37	1	-	-	-	220
Public policy studies(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sociology	27	67	94	38	29	34	30	30	27	35	29	25	29	306
Statistics	-	8	8	12	14	15	11	3	3	-	-	5	3	66
Urban studies(41)	-	-	-	-	3	1	2	4	5	13	4	6	7	45
Social sciences, general	1	1	2	-	-	2	1	1	1	2	-	-	1	8
Social sciences, other	3	11	14	15	5	6	6	4	5	4	3	4	4	56
PSYCHOLOGY	79	121	200	41	50	51	50	47	55	41	47	54	45	481
Clinical	37	35	72	9	11	4	10	10	16	6	10	13	8	97
Cognitive(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Comparative(42)	-	2	2	1	2	-		-	-	1	1	-	-	5
Counseling(43)	2	4	6	2	5	3	3	2	2	3	1	3	5	29
Developmental(44)	-	8	8	2	3	6	4	5	4	2	6	2	4	38
Educational	2	6	8	4	5	5	5	5	-	4	2	5	4	39
Exper, compar, physiol(42)	7	-	7	-	-	-	-	-	-	-	-	-	-	-
Experimental(42)	9	25	34	7	4	6	9	6	6	3	6	7	5	59
Indust/organizational(45)	2	4	6	2	1	2	-	2	3	2	3	3	3	21
Physiological(42)	3	11	14	3	1	4	2	2	1	3	1	3	1	21
Quantitative(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Personality	2	-	2	-	3	3	1	-	1	-	-	1	-	9
Psychometrics	4	5	9	1	2	2	3	-	1	1	1	1	-	12
School	-	-	-	-	-	2	2	3	1	4	1	2	1	16
Social	10	10	20	6	6	4	4	5	9	5	4	4	3	50
Psychology, general	1	8	9	2	5	5	5	5	7	6	7	3	6	51
Psychology, other	-	3	3	2	2	5	2	2	4	1	4	7	5	34
TOTAL, ENGINEERING	363	1,138	1,501	434	534	624	561	517	420	391	326	325	323	4,455
Aerospace,aero/astronaut(46)	19	65	84	23	26	32	25	17	16	8	10	14	15	186
Agricultural	6	13	19	2	7	5	4	6	4	3	1	3	4	39
Bioengineering/biomed(47)	-	2	2	6	4	6	8	11	5	6	4	7	5	62
Ceramic	9	10	19	3	3	3	2	1	3	6	7	3	2	33
Chemical	57	129	186	82	62	71	78	76	65	49	45	46	46	620
Civil	46	150	196	58	88	85	71	57	42	50	44	27	21	543
Communications(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Computer	-	-	-	-	-	-	-	-	9	13	18	13	12	65
Electrical/electronics(48)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical(48)	75	212	287	74	102	113	91	88	60	74	64	52	66	784
Electronics(48)	22	80	102	19	15	26	16	17	12	8	11	7	12	143
Engineering mechanics	35	137	172	34	49	66	45	42	33	18	15	10	11	323
Engineering physics(49)	9	47	56	3	6	9	5	6	1	2	-	1	3	36
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Environmental health eng(50)	5	15	20	3	4	10	14	16	8	10	4	6	4	79
Fuel tech/petro eng(9)	-	5	5	4	4	2	4	2	2	1	-	-	1	20
Industrial	4	24	28	9	12	20	8	10	10	4	9	5	9	96
Materials science	-	3	3	2	12	24	21	23	20	23	20	17	22	184
Mechanical	49	115	164	38	54	72	67	66	52	44	26	44	39	502
Metallurgical(51)	20	55	75	23	30	28	18	18	25	15	12	18	10	197
Mining/mineral(52)	-	4	4	2	7	3	4	1	2	1	-	3	-	23
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(49)	-	9	9	14	3	14	17	9	10	15	10	17	9	118
Ocean(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operations research	-	-	-	-	1	9	21	18	14	13	8	9	7	100
Petroleum(53)	-	-	-	-	-	-	2	3	5	2	4	5	2	23
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Systems(54)	-	-	-	-	-	-	-	-	7	10	6	7	11	41
Engineering, general	1	11	12	5	8	-	8	7	2	7	1	2	5	45
Engineering, other	6	52	58	30	37	26	32	23	13	9	7	9	7	193
TOTAL, NON-S&E(55)	347	1,020	1,367	334	416	445	419	426	445	388	378	352	375	3,978
TOTAL, ALL FIELDS	1,631	4,353	5,984	1,576	1,907	2,093	1,998	1,826	1,714	1,494	1,368	1,344	1,320	16,640

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS													
SOCIAL SCIENCES	165	160	170	142	164	171	174	209	185	206	1,746	188	227
Agricultural economics	7	12	9	9	9	4	6	10	7	10	83	6	16
Anthropology	14	10	6	9	8	14	17	17	14	14	123	9	14
Area studies	-	1	1	-	-	4	-	1	1	1	9	-	2
Criminology(38)	1	2	-	2	-	2	-	-	-	1	8	-	4
Demography(6)	-	-	-	-	-	-	3	1	3	1	8	1	1
Econometrics	3	5	2	3	5	3	5	1	2	3	32	2	1
Economics	51	55	61	56	63	57	54	74	55	53	579	67	56
Geography	2	2	5	7	6	8	4	7	4	7	52	8	3
History of science(39)	-	-	-	-	1	1	-	-	1	-	3	-	1
International relations	10	4	6	7	8	8	8	8	5	10	74	9	6
Linguistics	13	3	12	6	11	15	10	10	15	23	118	10	19
Pol sci/government(40)	-	-	-	12	26	16	22	30	24	35	165	27	28
Political science(40)	19	25	21	-	-	-	-	-	-	-	65	-	-
Pol sci, public admin(40)	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	3	5	3	2	1	6	2	22	8	11
Sociology	33	27	28	17	14	17	24	28	28	25	241	24	40
Statistics	4	2	6	1	2	5	8	7	4	3	42	4	3
Urban studies(41)	4	6	6	3	5	9	3	5	7	3	51	5	12
Social sciences, general	1	-	1	1	-	-	2	1	1	5	12	4	1
Social sciences, other	3	6	6	6	1	5	6	8	8	10	59	4	9
PSYCHOLOGY	50	47	47	64	51	59	65	59	61	54	557	73	60
Clinical	10	8	14	17	19	14	20	18	24	19	163	30	19
Cognitive(6)	-	-	-	1	1	-	2	3	2	1	10	3	2
Comparative(42)	-	-	-	-	1	-	1	-	-	1	3	-	-
Counseling(43)	2	9	2	6	7	5	11	6	9	6	63	5	4
Developmental(44)	4	3	5	3	2	2	5	7	3	3	37	8	3
Educational	5	4	2	10	5	3	3	1	3	1	37	2	1
Exper, compar, physiol(42)	-	-	-	-	-	-	-	-	-	-	-	-	-
Experimental(42)	9	4	3	3	1	3	3	2	3	4	35	2	6
Indust/organizational(45)	-	2	1	2	2	2	-	1	-	1	11	4	4
Physiological(42)	3	2	1	1	-	5	1	2	2	-	17	1	1
Quantitative(6)	-	-	-	-	-	1	1	1	-	2	5	1	-
Personality	-	-	1	1	-	2	1	-	1	1	7	1	-
Psychometrics	1	-	-	-	-	-	-	-	-	1	2	2	-
School	2	-	2	4	-	1	2	-	1	-	12	2	-
Social	2	4	4	3	2	8	7	6	3	2	41	3	7
Psychology, general	6	7	6	8	5	7	5	8	7	8	67	5	6
Psychology, other	6	4	6	5	6	6	3	4	3	4	47	4	7
TOTAL, ENGINEERING	299	301	296	319	274	315	343	355	366	365	3,233	387	381
Aerospace,aero/astronaut(46)	11	6	10	13	11	17	5	8	14	8	103	8	11
Agricultural	1	4	3	7	5	2	4	7	3	8	44	5	2
Bioengineering/biomed(47)	7	9	3	2	6	4	2	4	7	4	48	7	10
Ceramic	3	5	3	3	2	1	1	5	2	3	28	4	2
Chemical	40	43	37	38	32	39	51	48	44	55	427	42	44
Civil	24	34	27	30	40	38	45	36	44	55	373	59	35
Communications(6)	-	-	-	5	2	7	2	6	3	5	30	5	2
Computer	9	17	11	16	8	11	11	7	12	10	112	13	15
Electrical/electronics(48)	-	-	-	60	59	65	70	60	90	84	488	89	113
Electrical(48)	43	51	56	5	-	-	-	-	-	-	155	-	-
Electronics(48)	9	7	6	4	-	-	-	-	-	-	26	-	-
Engineering mechanics	10	7	17	9	11	5	9	13	13	12	106	9	8
Engineering physics(49)	2	3	-	-	1	-	2	-	-	1	9	1	2
Engineering science(6)	-	-	-	1	2	4	4	3	2	2	18	4	4
Environmental health eng(50)	5	1	8	3	3	2	8	5	2	4	41	2	5
Fuel tech/petro eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	10	7	11	18	6	9	14	13	11	8	107	13	17
Materials science	19	18	13	15	17	13	19	22	19	10	165	16	25
Mechanical	49	37	48	38	28	53	49	54	58	54	468	59	51
Metallurgical(51)	14	13	7	10	9	7	13	11	6	8	98	6	2
Mining/mineral(52)	-	2	1	4	4	1	2	4	2	2	22	2	-
Naval arch/marine engin(2)	-	-	-	-	1	-	4	-	1	1	7	2	1
Nuclear(49)	14	14	8	11	11	5	8	11	4	4	90	9	3
Ocean(6)	-	-	-	2	-	2	-	3	2	1	10	2	2
Operations research	7	9	6	4	4	4	5	9	2	3	53	4	4
Petroleum(53)	7	3	7	1	-	5	3	3	4	1	34	6	2
Polymer(6)	-	-	-	2	3	8	3	5	2	6	29	2	5
Systems(54)	4	7	4	7	5	5	2	4	8	5	51	3	1
Engineering, general	2	3	1	4	1	1	2	10	8	5	37	7	5
Engineering, other	9	1	9	7	3	7	5	4	3	6	54	8	10
TOTAL, NON-S&E(55)	338	388	374	377	389	395	445	492	495	505	4,198	509	562
TOTAL, ALL FIELDS	1,290	1,281	1,228	1,275	1,224	1,324	1,432	1,578	1,623	1,626	13,881	1,695	1,814

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate 1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
NON-U.S. CITIZENS, TEMPORARY VISAS														
TOTAL, S&E	4,854	8,473	13,327	2,053	2,127	2,212	2,465	2,692	2,787	2,733	2,661	2,565	2,657	24,952
TOTAL, SCIENCES	3,891	6,456	10,347	1,579	1,605	1,693	1,840	1,978	1,966	1,918	1,886	1,795	1,840	18,100
PHYSICAL SCIENCES	995	1,510	2,605	363	363	387	437	413	458	431	406	397	415	4,070
Physics/astronomy	400	720	1,120	187	190	209	248	230	244	228	207	181	207	2,131
Acoustics	4	4	8	-	2	1	1	-	1	-	3	1	2	11
Astronomy(1)	-	3	3	2	3	3	10	6	7	8	2	1	6	48
Astronomy/astrophysics(1)	14	35	49	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	-	6	6	10	4	6	9	6	13	9	8	10	7	82
Atomic/molecular	27	45	72	13	15	11	15	16	27	17	15	12	6	147
Electron(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electromagnetism(3)	8	15	23	1	2	1	2	1	-	1	-	1	2	11
Elementary particle	76	152	228	47	40	39	42	32	21	30	28	27	22	328
Fluids	8	29	37	2	1	-	4	2	6	1	2	3	-	21
Mechanics(4)	3	4	7	1	-	2	1	2	1	1	-	-	-	8
Nuclear(5)	107	106	213	21	20	25	31	27	27	23	15	16	21	226
Optics	6	6	12	2	1	3	4	5	7	6	4	7	10	49
Plasma	-	8	8	9	12	15	10	7	9	9	10	9	14	104
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid state	70	190	260	35	45	43	55	72	54	53	57	47	48	509
Theoretical physics(7)	40	-	40	-	-	-	-	-	-	-	-	-	-	-
Thermal(8)	3	9	12	2	1	5	2	3	1	1	2	3	1	21
Physics, general	8	51	59	24	22	38	47	41	45	51	40	36	46	390
Physics, other	26	57	83	18	22	17	15	10	25	18	21	8	22	176
Chemistry	595	890	1,485	176	173	178	189	183	214	203	199	216	208	1,939
Agricultural/food	68	66	134	13	9	5	2	2	2	2	1	3	2	41
Analytical	33	40	73	10	5	6	5	11	15	16	8	12	18	106
Inorganic	33	71	104	13	9	20	12	15	17	13	25	21	13	158
Nuclear	16	20	36	3	4	2	-	4	1	3	3	-	2	22
Organic	198	285	483	53	62	41	63	38	79	57	49	58	65	565
Pharmaceutical	44	69	113	12	8	7	5	2	6	7	8	3	5	63
Physical	166	247	413	45	46	43	54	45	45	46	40	49	35	448
Polymer	-	-	-	-	-	-	2	11	7	9	13	12	22	76
Theoretical	15	28	43	6	5	6	6	6	6	5	8	8	8	64
Chemistry, general	13	35	48	14	14	26	31	39	31	35	36	43	27	296
Chemistry, other	9	29	38	7	11	22	9	10	5	10	8	7	11	100
EARTH, ATMOS, OCEAN SCI	181	293	474	68	41	64	70	91	89	94	98	66	69	750
Applied geo, geo eng(9)	21	28	49	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	-	9	9	3	-	7	3	11	7	6	3	1	1	42
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atmos/meteorol sci, other	-	-	-	-	-	-	-	-	-	6	8	1	11	26
Atmospheric dynamics	-	-	-	-	-	-	-	-	-	3	6	2	5	16
Atmospheric phys/chem	-	-	-	-	-	-	-	-	-	2	1	2	1	6
Environmental sciences(10)	-	-	-	-	-	4	2	6	8	4	4	1	2	31
Geochemistry(11)	-	8	8	8	6	6	6	7	8	7	3	4	7	62
Geology(12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Structural geology(12)	2	10	12	-	1	4	3	3	1	1	3	2	5	23
Geomorph/glacial geology	6	5	11	2	1	1	1	3	1	1	1	1	-	12
Geophysics/seismology(13)	-	-	-	-	-	-	-	-	-	9	16	12	10	47
Geophysics(13)	24	38	62	15	5	12	11	13	21	10	-	-	-	87
Hydrology/water res(14)	3	12	15	4	5	3	4	6	-	4	8	9	3	46
Marine sciences(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marine sciences, other(15)	-	-	-	-	-	-	-	-	-	-	-	-	2	2
Meteorology(16)	21	27	48	7	2	3	6	7	11	5	-	-	-	41
Mineral, petrol, geochem(11)	52	62	114	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	-	8	8	7	5	7	8	8	10	2	4	-	1	52
Oceanography	5	18	23	3	3	3	7	6	7	9	12	14	11	75
Paleontology	11	19	30	1	1	5	1	1	2	3	-	1	1	16
Stratigraphy, sediment	28	31	59	8	3	-	6	4	2	9	10	3	3	48
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earth sciences, general(17)	6	8	14	5	4	3	7	8	5	9	9	7	2	59
Earth sciences, other(17)	2	10	12	5	5	6	5	8	6	4	10	6	4	59
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MATHEMATICS	294	491	785	134	152	169	173	224	197	183	167	155	149	1,703
Algebra	37	64	101	14	16	17	11	18	20	19	12	13	10	150
Analysis/funct analysis(18)	53	98	151	28	27	26	32	34	36	25	33	19	22	282
Applied mathematics	32	65	97	18	18	20	24	31	11	23	17	24	29	215
Computing theory	9	33	42	8	16	21	25	37	27	16	12	7	3	172
Geometry	11	19	30	6	7	7	6	8	4	7	7	4	4	60
Logic	9	14	23	4	4	5	3	1	4	7	4	5	3	40
Math probability/stat(19)	90	98	188	14	9	23	29	33	31	45	31	38	37	290
Number theory	13	15	28	3	6	3	4	4	6	3	4	1	1	35
Operations research	-	-	-	-	-	-	-	9	15	4	10	8	10	56
Topology	30	47	77	12	12	9	10	11	12	12	13	6	8	105
Mathematics, general	8	25	33	18	22	21	24	32	27	21	18	21	22	226
Mathematics, other	2	13	15	9	15	17	5	6	4	1	6	9	-	72
COMPUTER & INFO SCI	-	-	-	-	-	-	-	-	-	-	3	26	32	61
Computer sciences	-	-	-	-	-	-	-	-	-	-	3	26	32	61
Information sci/systems(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS													
TOTAL, S&E	2,710	2,962	3,127	3,400	3,692	4,028	4,141	4,450	4,919	5,378	38,807	6,535	7,252
TOTAL, SCIENCES	1,859	2,020	2,097	2,230	2,423	2,609	2,769	2,918	3,198	3,437	25,560	4,262	4,779
PHYSICAL SCIENCES	426	442	506	539	564	620	758	798	865	888	6,406	1,065	1,205
Physics/astronomy	189	203	242	256	266	290	365	399	423	427	3,060	536	546
Acoustics	2	1	3	2	6	2	3	4	3	3	29	8	3
Astronomy(1)	3	5	4	5	7	6	7	10	12	9	68	13	12
Astronomy/astrophysics(1)	-	-	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	8	3	6	7	8	8	10	13	8	17	88	17	24
Atomic/molecular	9	11	23	18	16	15	23	24	19	27	185	25	25
Electron(2)	-	-	-	-	2	1	1	-	-	2	6	2	1
Electromagnetism(3)	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	26	21	35	40	43	48	49	54	61	43	420	64	63
Fluids	4	5	4	2	2	5	3	10	6	4	45	5	3
Mechanics(4)	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(5)	16	16	14	19	14	22	35	24	32	23	215	24	24
Optics	10	11	9	19	12	13	12	14	14	23	137	29	24
Plasma	8	10	15	17	13	15	13	22	17	19	149	13	22
Polymer(6)	-	-	-	4	4	3	4	5	11	3	34	7	10
Solid state	45	58	51	55	68	79	110	112	99	122	799	132	182
Theoretical physics(7)	-	-	-	-	-	-	-	-	-	-	-	-	-
Thermal(8)	-	3	-	-	-	-	-	-	-	-	3	-	-
Physics, general	45	49	58	53	51	46	70	72	110	90	644	145	103
Physics, other	13	10	20	15	20	27	25	35	31	42	238	52	50
Chemistry	237	239	264	283	298	330	393	399	442	461	3,346	529	659
Agricultural/food	-	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	18	20	19	30	37	36	43	56	49	59	367	51	69
Inorganic	22	18	29	25	28	38	43	39	44	53	339	48	75
Nuclear	2	1	5	3	6	1	3	1	2	-	24	4	1
Organic	81	64	85	84	82	87	89	104	124	117	917	79	155
Pharmaceutical	14	7	11	18	7	9	10	15	19	10	120	16	23
Physical	38	35	34	51	46	54	56	63	72	81	530	92	118
Polymer	17	22	17	16	15	25	18	32	32	28	222	30	55
Theoretical	7	6	8	10	7	5	11	7	12	18	91	13	12
Chemistry, general	31	55	39	26	48	55	96	65	72	75	562	181	133
Chemistry, other	7	11	17	20	22	20	24	17	16	20	174	15	18
EARTH, ATMOS, OCEAN SCI	80	85	81	106	106	119	106	125	137	124	1,069	175	188
Applied geo, geo eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	5	4	8	2	1	1	-	3	1	1	26	1	-
Atmos/meteorol sci, gen(6)	-	-	-	3	1	4	1	7	3	6	25	10	5
Atmos/meteorol sci, other	14	12	3	3	3	3	2	5	-	3	48	1	2
Atmospheric dynamics	6	4	5	5	8	6	6	4	7	5	56	7	12
Atmospheric phys/chem	1	1	-	2	2	1	3	3	8	4	25	8	9
Environmental sciences(10)	3	9	6	9	5	6	4	3	6	8	59	7	4
Geochemistry(11)	6	1	7	3	5	9	6	8	6	6	57	11	8
Geology(12)	-	-	-	15	22	22	8	16	19	14	116	23	32
Structural geology(12)	-	-	1	-	-	-	-	-	-	-	1	-	-
Geomorph/glacial geology	3	1	2	1	1	1	2	2	1	-	14	1	1
Geophysics/seismology(13)	16	12	13	16	15	22	22	27	26	20	189	31	36
Geophysics(13)	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	5	8	6	8	4	6	1	6	9	9	62	4	4
Marine sciences(6)	-	-	-	4	4	4	3	6	5	6	32	8	11
Marine sciences, other(15)	-	3	6	-	-	-	-	-	-	-	9	-	-
Meteorology(16)	-	-	-	4	5	6	12	6	13	5	51	6	12
Mineral, petrol, geochem(11)	-	-	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	1	3	3	4	1	3	2	2	2	4	25	3	4
Oceanography	6	6	7	16	14	13	17	13	16	13	121	33	19
Paleontology	1	-	-	-	3	1	4	2	2	1	14	2	3
Stratigraphy, sediment	2	5	2	5	2	3	1	1	3	3	27	-	4
Geological sciences, gen(17)	-	-	-	2	1	1	2	4	2	8	20	7	4
Geological sciences, oth(17)	-	-	-	1	7	3	1	4	3	6	25	6	11
Earth sciences, general(17)	7	12	6	-	-	-	-	-	-	-	25	-	-
Earth sciences, other(17)	4	4	6	-	-	-	-	-	-	-	14	-	-
Physical sciences, other(6)	-	-	-	3	2	4	9	3	5	2	28	6	7
MATHEMATICS	139	186	192	209	232	238	272	302	305	346	2,421	424	480
Algebra	10	14	12	16	21	21	22	24	21	20	181	15	24
Analysis/funct analysis(18)	17	30	31	28	30	27	33	42	22	48	308	45	71
Applied mathematics	18	27	24	29	26	46	48	48	62	71	399	87	97
Computing theory	1	3	4	3	5	2	5	3	3	3	32	3	4
Geometry	4	2	8	18	10	14	14	19	22	19	130	23	40
Logic	1	1	1	4	9	6	6	8	8	6	50	6	6
Math probability/stat(19)	39	50	53	46	64	61	53	58	73	68	565	88	108
Number theory	6	3	3	7	7	7	5	4	15	6	63	11	8
Operations research	12	14	15	10	12	8	11	10	11	9	112	16	5
Topology	6	10	5	10	11	9	13	10	9	13	96	16	21
Mathematics, general	18	23	27	23	26	25	41	60	47	64	354	100	81
Mathematics, other	7	9	9	15	11	12	21	16	12	19	131	14	15
COMPUTER & INFO SCI	43	40	59	72	89	89	123	143	176	178	1,012	271	338
Computer sciences	43	40	59	68	78	71	112	122	152	163	908	248	313
Information sci/systems(6)	-	-	-	4	11	18	11	21	24	15	104	23	25

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate 1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
NON-U.S. CITIZENS, TEMPORARY VISAS														
AGRIC & BIOL SCI	1,501	2,545	4,046	560	549	537	548	634	584	557	575	559	562	5,665
Agricultural sciences	520	927	1,447	199	237	232	234	271	267	244	257	267	265	2,473
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agronomy	188	297	485	51	57	41	52	58	54	66	50	47	57	533
Animal breeding/genetics(21)	81	163	244	19	21	13	5	3	4	3	7	4	4	83
Animal nutrition(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sci/nutrition(22)	-	-	-	-	-	18	31	39	35	26	27	34	34	244
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sciences, other(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish/wildlife(23)	14	8	22	4	4	1	4	7	5	4	5	8	4	46
Fisheries science(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife management(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences(24)	-	12	12	6	25	20	28	28	37	25	46	34	35	284
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry science(25)	27	45	72	11	12	11	16	23	21	22	11	22	22	171
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest engineering(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horticulture science	68	110	178	22	18	29	15	17	22	20	20	23	16	202
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phytopathology(26)	114	173	287	32	31	28	23	25	29	26	25	29	21	269
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences(28)	-	16	16	20	27	39	41	45	30	32	37	40	38	349
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agriculture, general	3	13	16	2	1	2	-	4	7	3	6	3	5	33
Agriculture, other	25	90	115	32	41	30	19	22	23	17	23	23	29	259
Biological sciences	981	1,618	2,599	361	312	305	314	363	317	313	318	292	297	3,192
Anatomy	24	27	51	10	9	4	3	4	7	1	6	9	5	58
Biochemistry	228	385	613	69	66	46	51	66	57	65	54	66	51	591
Biometrics/biostat	15	17	32	4	5	6	5	12	4	7	10	7	3	63
Biophysics	16	34	50	5	9	14	17	16	9	10	18	5	13	116
Botany, other(29)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Botany(29)	94	103	197	19	16	19	15	22	17	17	12	15	15	167
Cell biology(30)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cytology(30)	8	16	24	4	3	-	3	-	6	-	1	3	-	20
Devel bio/embryology(31)	3	9	12	2	2	2	1	2	2	2	-	-	-	13
Ecology	13	23	36	10	5	9	13	12	11	4	11	8	5	88
Endocrinology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Entomology	110	149	259	30	30	31	35	32	34	26	33	22	36	309
Human/animal genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Genetics(32)	111	175	286	31	34	24	25	29	25	30	11	15	17	241
Human/animal pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pathology(33)	17	38	55	8	10	8	7	9	5	8	8	4	10	77
Human/animal pharmacol	34	78	112	19	6	13	19	16	8	11	11	12	18	133
Human/animal physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal physiology(34)	33	109	142	33	24	24	22	23	19	17	31	19	14	226
Animal/plant physiol(34)	29	-	29	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	39	99	138	15	17	14	18	19	14	11	13	6	13	140
Hydrobiology	3	3	6	1	1	1	1	-	-	-	-	-	-	4
Immunology	-	-	-	-	-	2	2	6	5	12	6	6	3	42
Microbiology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bacteriology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Microbiology/bacteriol(35)	121	199	320	44	23	31	20	35	27	26	22	31	19	278
Molecular biology	-	10	10	7	5	10	10	11	16	9	13	14	15	110
Neurosciences	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutritional sciences(36)	9	-	9	-	-	-	-	-	-	16	22	17	14	69
Parasitology	-	-	-	-	-	-	-	3	3	-	2	3	5	16
Toxicology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology, other(37)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology(37)	62	87	149	19	15	15	13	13	16	14	13	6	9	133
Biological sci, general	3	17	20	10	16	11	13	13	11	17	11	15	17	134
Biological sci, other	9	40	49	21	16	21	21	20	21	10	10	9	15	164

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS													
AGRIC & BIOL SCI	592	613	603	629	675	779	711	781	902	964	7,249	1,293	1,451
Agricultural sciences	296	325	260	307	314	355	320	289	345	356	3,167	439	424
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	1	1	2	1
Agronomy	64	60	53	60	60	58	56	46	55	48	560	55	53
Animal breeding/genetics(21)	5	4	2	7	9	9	10	9	12	10	77	6	6
Animal nutrition(22)	-	-	-	11	20	25	16	16	14	14	116	11	15
Animal sci/nutrition(22)	30	54	28	-	-	-	-	-	-	-	112	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	2	4	6	8	7
Poultry science(22)	-	-	-	-	-	-	-	-	3	5	8	8	5
Animal sciences, other(22)	-	-	-	31	28	28	24	20	19	25	175	37	28
Fish/wildlife(23)	13	2	8	-	-	-	-	-	-	-	23	-	-
Fisheries science(23)	-	-	-	9	9	2	7	4	11	13	55	11	11
Wildlife management(23)	-	-	-	6	3	4	2	1	1	-	17	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	7	7	14	12	12
Food sciences(24)	38	49	45	44	47	53	54	53	10	-	393	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	1	9	10	6	10
Food sciences, other(24)	-	-	-	-	-	-	-	-	58	62	120	70	69
Forestry science(25)	18	21	13	20	12	19	24	21	1	-	149	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	4	4	8	8	6
Forest engineering(25)	-	-	-	-	-	-	-	-	-	1	1	1	1
Forest management(25)	-	-	-	-	-	-	-	-	5	5	10	5	7
Wood science(25)	-	-	-	-	-	-	-	-	3	10	13	9	9
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	3	4	7	6	5
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	8	15	23	25	14
Horticulture science	27	32	20	22	15	27	15	18	23	17	216	31	32
Plant breeding/genetics(26)	-	-	-	19	19	25	33	18	28	17	159	27	29
Plant pathology(26)	-	-	-	25	21	25	27	21	19	22	160	23	43
Phytopathology(26)	37	27	24	-	-	-	-	-	-	-	88	-	-
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	2	2	1	1
Plant sciences, other(26)	-	-	-	4	4	8	7	10	7	7	47	8	6
Soil sciences(28)	32	40	30	36	44	41	36	28	6	-	293	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	10	8	18	10	8
Soil sciences, other(28)	-	-	-	-	-	-	-	-	24	34	58	38	35
Agriculture, general	1	4	3	4	-	1	2	2	6	2	25	4	2
Agriculture, other	31	32	34	9	23	30	7	22	5	10	203	17	9
Biological sciences	296	288	343	322	361	424	391	492	557	608	4,082	854	1,027
Anatomy	9	4	10	7	8	11	9	8	4	9	79	9	15
Biochemistry	53	43	49	54	62	69	72	95	110	127	734	149	193
Biometrics/biostat	6	7	7	4	10	6	9	7	10	5	71	11	23
Biophysics	8	13	15	11	9	9	11	18	17	19	130	37	42
Botany, other(29)	-	-	-	9	9	17	10	14	13	18	90	27	17
Botany(29)	11	12	17	-	-	-	-	-	-	-	40	-	-
Cell biology(30)	-	-	-	7	6	7	9	9	14	12	64	19	31
Cytology(30)	2	4	1	-	-	-	-	-	-	-	7	-	-
Devel bio/embryology(31)	-	1	1	2	2	-	-	2	-	1	9	2	2
Ecology	9	10	11	13	[illegible]	17	23	13	22	24	154	20	23
Endocrinology(6)	-	-	-	3	2	3	3	4	4	8	27	1	8
Entomology	31	27	37	31	39	32	21	25	19	24	286	33	38
Human/animal genetics(32)	-	-	-	3	3	11	5	10	12	11	55	19	33
Plant genetics(32)	-	-	-	9	2	6	3	4	12	8	44	9	10
Genetics(32)	22	15	18	-	-	-	-	-	-	-	55	-	-
Human/animal pathology(33)	-	-	-	14	8	13	9	14	13	12	83	24	27
Plant pathology(33)	-	-	-	3	8	10	6	10	5	3	45	12	22
Pathology(33)	10	16	12	-	-	-	-	-	-	-	38	-	-
Human/animal pharmacol	15	16	14	13	24	19	13	21	20	30	185	43	64
Human/animal physiol(34)	-	-	-	19	20	24	19	24	28	30	164	55	46
Animal physiology(34)	16	14	31	-	-	-	-	-	-	-	61	-	-
Animal/plant physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	4	11	8	12	10	12	6	9	20	8	100	9	25
Hydrobiology	-	-	-	-	-	-	-	-	-	-	-	-	-
Immunology	6	6	11	17	10	10	12	19	11	11	113	22	35
Microbiology(35)	-	-	-	27	32	38	40	45	35	53	270	78	81
Bacteriology(35)	-	-	-	1	-	2	2	1	2	2	10	2	1
Microbiology/bacteriol(35)	21	32	33	-	-	-	-	-	-	-	86	-	-
Molecular biology	18	7	18	16	16	30	28	48	62	73	316	86	113
Neurosciences	-	-	1	9	10	12	7	10	13	19	81	28	36
Nutritional sciences(36)	9	14	18	16	15	24	17	20	28	25	186	26	27
Parasitology	5	3	4	2	3	3	4	1	4	7	36	5	7
Toxicology(6)	-	-	-	4	2	6	4	4	5	5	30	14	11
Zoology, other(37)	-	-	-	5	10	9	13	11	17	12	77	12	10
Zoology(37)	10	11	7	-	-	-	-	-	-	-	28	-	-
Biological sci, general	18	13	11	9	20	14	27	31	34	41	218	74	59
Biological sci, other	13	9	9	2	9	10	9	15	23	11	110	28	28

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate										
				1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
NON-U.S. CITIZENS, TEMPORARY VISAS														
SOCIAL SCIENCES	768	1,310	2,078	396	429	458	532	532	537	567	564	531	540	5,086
Agricultural economics	-	26	26	33	50	49	57	62	58	59	54	62	69	553
Anthropology	27	34	61	15	11	8	16	17	23	28	25	32	27	202
Area studies	1	6	7	7	3	2	2	5	4	2	1	4	1	31
Criminology(38)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Demography(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Econometrics	21	33	54	6	4	6	10	6	9	8	11	7	5	72
Economics	352	594	946	141	146	158	183	182	171	194	201	178	197	1,751
Geography	48	55	103	20	21	27	34	26	19	20	23	28	16	234
History of science(39)	-	-	-	-	3	3	1	3	1	4	1	2	2	20
International relations	48	64	112	10	17	13	14	23	17	26	15	19	17	171
Linguistics	46	75	121	22	30	24	35	31	33	33	39	40	36	323
Pol sci/government(40)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Political science(40)	-	-	-	-	-	-	-	-	-	75	67	52	61	255
Pol sci, public admin(40)	142	196	338	49	37	69	80	75	75	6	-	-	-	391
Public policy studies(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sociology	76	151	227	45	62	54	60	65	84	68	66	55	61	620
Statistics	-	32	32	31	21	17	17	13	16	12	17	15	11	170
Urban studies(41)	-	-	-	-	4	13	9	11	15	10	20	11	20	113
Social sciences, general	1	-	1	-	2	1	2	2	2	3	4	5	5	26
Social sciences, other	6	44	50	17	18	14	12	11	10	19	20	21	12	154
PSYCHOLOGY	152	207	359	58	71	78	80	84	101	86	73	61	73	765
Clinical	34	37	71	5	9	8	15	16	15	8	7	12	7	102
Cognitive(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Comparative(42)	5	2	7	1	-	-	1	-	1	2	-	-	-	5
Counseling(43)	7	14	21	2	5	4	4	6	9	7	6	7	7	57
Developmental(44)	6	13	19	4	4	2	7	5	10	6	5	3	7	53
Educational	8	9	17	2	1	6	4	2	4	3	7	3	8	40
Exper, compar, physiol(42)	18	-	18	-	-	-	-	-	-	-	-	-	-	-
Experimental(42)	23	40	63	11	16	11	13	12	12	13	17	9	10	124
Indust/organizational(45)	7	11	18	3	6	3	5	6	4	8	3	2	2	42
Physiological(42)	4	15	19	5	7	5	5	7	8	3	6	6	3	55
Quantitative(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Personality	6	6	12	3	1	1	1	2	-	5	1	1	1	16
Psychometrics	6	8	14	2	1	5	-	3	2	2	2	1	2	20
School	1	3	4	-	-	-	-	1	1	2	-	-	2	6
Social	24	28	52	17	11	20	14	16	19	18	7	8	7	137
Psychology, general	2	15	17	2	9	4	7	5	10	6	7	3	8	61
Psychology, other	1	6	7	1	1	9	4	3	6	3	5	6	9	47
TOTAL, ENGINEERING	963	2,017	2,980	474	522	519	625	714	821	815	775	770	817	6,852
Aerospace,aero/astronaut(46)	43	96	139	23	27	22	27	28	28	28	45	39	35	302
Agricultural	19	32	51	14	12	16	20	21	18	12	15	19	39	186
Bioengineering/biomed(47)	-	1	1	1	7	7	5	6	7	6	8	10	7	64
Ceramic	5	10	15	2	2	7	3	3	4	6	4	2	4	37
Chemical	159	257	416	52	59	56	83	106	111	101	97	83	98	846
Civil	183	388	571	86	104	85	106	100	107	125	109	110	107	1,039
Communications(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Computer	-	-	-	-	-	-	-	-	33	38	30	23	29	153
Electrical/electronics(48)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical(48)	184	375	559	81	84	96	119	115	157	130	117	125	116	1,140
Electronics(48)	42	65	107	12	13	6	21	10	18	24	24	16	31	175
Engineering mechanics	84	170	254	31	32	23	29	27	43	36	28	36	32	317
Engineering physics(49)	36	76	112	3	4	5	4	4	6	-	2	2	4	34
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Environmental health eng(50)	20	43	63	8	5	8	13	10	14	18	14	13	8	111
Fuel tech/petro eng(9)	-	8	8	3	4	-	3	10	6	2	2	2	2	34
Industrial	10	42	52	29	13	18	12	25	18	26	22	11	23	197
Materials science	-	-	-	4	9	12	25	32	28	31	36	36	43	256
Mechanical	88	208	296	45	48	54	59	79	79	76	80	85	87	692
Metallurgical(51)	64	144	208	28	40	38	32	38	31	42	28	29	34	340
Mining/mineral(52)	-	1	1	4	3	1	4	-	1	4	1	1	2	21
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(49)	-	20	20	18	14	17	18	24	18	38	23	27	24	221
Ocean(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operations research	-	-	-	-	-	11	14	20	29	16	21	26	21	158
Petroleum(53)	-	-	-	-	-	-	3	5	5	9	9	13	16	60
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Systems(54)	-	-	-	-	-	-	-	-	21	15	22	24	16	98
Engineering, general	-	16	16	5	2	4	6	11	11	11	10	11	8	79
Engineering, other	26	65	91	25	40	33	19	40	28	21	28	27	31	292
TOTAL, NON-S&E(55)	1,051	1,838	2,889	519	563	619	709	667	749	796	787	856	930	7,195
TOTAL, ALL FIELDS	5,905	10,311	16,216	2,572	2,690	2,831	3,174	3,359	3,536	3,529	3,448	3,421	3,587	32,147

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS													
SOCIAL SCIENCES	508	574	591	596	669	683	718	684	729	831	6,583	917	996
Agricultural economics	54	64	73	59	71	48	60	45	48	54	576	64	71
Anthropology	17	25	30	24	28	23	29	21	30	32	259	33	36
Area studies	2	5	1	1	6	3	9	2	-	1	30	5	8
Criminology(38)	3	-	-	4	9	7	-	2	7	1	33	4	8
Demography(6)	-	-	-	12	10	13	5	15	10	7	72	12	13
Econometrics	5	5	9	9	10	10	11	15	18	17	109	14	13
Economics	187	200	196	205	239	269	260	250	291	315	2,412	347	401
Geography	20	20	23	25	28	26	34	24	35	28	263	38	29
History of science(39)	-	4	3	-	1	4	6	2	-	3	23	6	7
International relations	21	16	23	16	26	13	21	21	20	29	206	35	17
Linguistics	39	47	45	45	50	46	60	67	55	56	510	58	78
Pol sci/government(40)	-	-	-	55	65	79	72	77	82	91	521	98	98
Political science(40)	47	52	60	-	-	-	-	-	-	-	159	-	-
Pol sci, public admin(40)	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	12	6	9	13	15	7	13	75	20	28
Sociology	63	69	54	64	62	60	68	54	68	94	656	97	101
Statistics	9	18	20	23	21	34	27	25	21	41	239	41	21
Urban studies(41)	21	26	26	19	17	21	14	18	18	24	204	16	27
Social sciences, general	3	4	3	2	6	4	7	12	5	2	48	7	6
Social sciences, other	17	19	25	21	14	14	22	19	14	23	188	22	34
PSYCHOLOGY	71	80	65	79	88	81	81	85	84	106	820	117	121
Clinical	12	13	11	9	6	9	13	21	16	13	123	23	21
Cognitive(6)	-	-	-	4	10	3	4	6	11	10	48	11	12
Comparative(42)	-	-	1	-	-	-	-	-	-	1	2	1	-
Counseling(43)	2	10	9	10	7	6	9	6	6	9	74	9	5
Developmental(44)	5	3	6	4	11	9	10	8	6	10	72	6	5
Educational	1	4	1	6	10	3	2	4	1	10	42	2	11
Exper, compar, physiol(42)	-	-	-	-	-	-	-	-	-	-	-	-	-
Experimental(42)	10	9	9	13	5	12	11	7	9	8	93	16	14
Indust/organizational(45)	2	2	3	2	4	2	2	3	6	6	32	3	5
Physiological(42)	2	3	3	7	3	5	1	6	5	1	36	3	6
Quantitative(6)	-	-	-	-	-	1	1	1	1	1	5	3	2
Personality	1	1	-	-	1	-	-	1	-	4	8	1	-
Psychometrics	1	3	-	-	-	2	-	-	1	-	7	1	3
School	1	1	1	-	2	1	1	3	2	2	14	-	2
Social	6	7	10	11	7	7	11	7	5	16	87	9	8
Psychology, general	7	10	3	8	8	11	9	8	11	7	82	17	19
Psychology, other	21	14	8	5	14	10	7	4	4	8	95	12	8
TOTAL, ENGINEERING	851	942	1,030	1,170	1,269	1,419	1,372	1,532	1,721	1,941	13,247	2,273	2,473
Aerospace,aero/astronaut(46)	34	35	38	49	58	51	60	59	48	84	516	86	80
Agricultural	39	42	23	33	40	34	22	31	25	39	328	42	50
Bioengineering/biomed(47)	5	6	7	14	15	14	8	19	24	28	140	41	46
Ceramic	7	8	5	8	8	5	9	11	12	13	86	16	26
Chemical	113	112	114	138	146	172	175	182	208	190	1,550	198	238
Civil	112	135	158	187	167	192	189	220	250	251	1,861	262	303
Communications(6)	-	-	-	7	2	12	8	14	8	10	61	21	12
Computer	25	24	39	36	21	25	37	32	57	65	361	63	97
Electrical/electronics(48)	-	-	-	170	247	273	275	264	354	423	2,006	517	554
Electrical(48)	117	134	184	28	1	1	-	-	-	-	465	-	-
Electronics(48)	22	15	23	3	-	-	-	-	-	-	63	-	-
Engineering mechanics	35	30	37	32	40	47	42	56	52	51	422	61	63
Engineering physics(49)	2	7	1	2	1	4	1	-	3	5	26	7	9
Engineering science(6)	-	-	-	14	16	13	7	8	9	13	80	15	15
Environmental health eng(50)	9	17	15	9	20	15	10	13	16	12	136	22	30
Fuel tech/petro eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	28	20	28	38	42	48	52	56	66	91	469	79	87
Materials science	52	35	54	59	74	79	75	96	99	105	728	150	164
Mechanical	95	114	123	141	165	192	189	247	281	307	1,854	403	394
Metallurgical(51)	33	48	39	40	36	43	53	52	42	35	421	42	42
Mining/mineral(52)	3	1	-	9	7	8	12	10	9	18	77	21	24
Naval arch/marine engin(2)	-	-	-	4	2	6	2	2	5	6	27	3	3
Nuclear(49)	36	49	49	49	45	48	43	32	38	37	426	37	37
Ocean(6)	-	-	-	6	7	20	4	14	8	7	66	10	14
Operations research	13	31	24	17	16	25	16	15	17	35	209	22	39
Petroleum(53)	16	13	8	13	9	11	8	13	14	13	118	24	16
Polymer(6)	-	-	-	10	18	16	16	21	14	33	128	28	19
Systems(54)	22	27	23	23	23	29	14	22	18	7	208	22	24
Engineering, general	9	8	4	6	17	9	18	13	14	19	117	37	23
Engineering, other	24	31	34	25	26	27	27	30	30	44	298	44	64
TOTAL, NON-S&E(55)	934	978	1,077	1,099	1,140	1,200	1,135	1,160	1,275	1,269	11,267	1,539	1,600
TOTAL, ALL FIELDS	3,644	3,940	4,204	4,499	4,832	5,228	5,276	5,610	6,194	6,647	50,074	8,074	8,852

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate													
	Total 1960-1964	Total 1965-1969	Total 1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
UNKNOWN CITIZENSHIP														
TOTAL, S&E	552	1,286	1,838	182	280	320	337	852	366	347	436	495	463	4,078
TOTAL, SCIENCES	499	1,012	1,511	162	248	288	294	676	313	273	362	426	403	3,445
PHYSICAL SCIENCES	149	319	468	56	72	55	60	127	65	38	53	53	54	633
Physics/astronomy	85	180	265	32	45	22	27	55	22	22	24	18	31	298
Astronomy(1)	-	-	-	4	2	1	-	-	1	2	-	-	-	10
Astronomy/astrophysics(1)	2	5	7	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	-	-	-	-	-	-	-	2	-	-	1	-	1	4
Atomic/molecular	4	8	12	-	-	-	-	-	1	-	1	-	-	2
Electromagnetism(3)	2	3	5	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	4	13	17	1	-	-	-	-	1	-	2	-	-	4
Fluids	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Mechanics(4)	1	-	1	-	-	-	-	-	-	-	-	-	-	-
Nuclear(5)	7	6	13	-	1	-	-	-	-	-	-	-	-	1
Optics	1	-	1	-	1	-	-	-	-	-	-	-	-	1
Plasma	-	-	-	-	-	-	-	2	-	-	-	-	-	2
Solid state	5	4	9	1	3	1	1	1	1	1	-	-	-	9
Thermal(8)	1	2	3	-	-	-	-	-	-	-	-	-	-	-
Physics, general	51	121	172	19	27	18	22	45	16	19	18	18	29	231
Physics, other	7	18	25	7	11	2	4	4	2	-	2	-	1	33
Chemistry	64	139	203	24	27	33	33	72	43	16	29	35	23	335
Agricultural/food	1	3	4	1	-	-	-	-	1	1	-	1	-	4
Analytical	2	2	4	-	-	-	-	-	-	-	-	2	-	2
Inorganic	-	4	4	2	1	-	1	-	-	-	1	1	-	6
Nuclear	4	1	5	-	-	-	-	-	-	-	-	-	-	-
Organic	2	9	11	6	1	3	2	1	2	2	-	3	-	20
Pharmaceutical	-	7	7	-	1	-	-	3	1	-	1	3	1	10
Physical	10	19	29	-	3	-	3	2	1	1	5	1	2	18
Polymer	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Theoretical	-	3	3	-	-	-	-	-	-	-	-	-	-	-
Chemistry, general	44	90	134	14	20	28	27	65	37	11	21	24	19	266
Chemistry, other	1	1	2	1	1	2	-	-	1	1	1	-	1	8
EARTH, ATMOS, OCEAN SCI	18	42	60	5	1	9	7	24	9	9	11	15	9	99
Applied geo, geo eng(9)	-	8	8	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atmos/meteorol sci, other	-	-	-	-	-	-	-	-	-	1	3	3	-	7
Atmospheric dynamics	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atmospheric phys/chem	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Environmental sciences(10)	-	-	-	-	-	1	-	-	-	2	2	3	2	10
Geochemistry(11)	-	-	-	-	-	1	1	1	1	-	1	-	-	5
Geology(12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Structural geology(12)	2	-	2	1	-	-	-	-	-	-	-	-	-	1
Geophysics/seismology(13)	-	-	-	-	-	-	-	-	-	-	1	2	1	4
Geophysics(13)	1	3	4	1	-	-	2	2	1	1	-	-	-	7
Hydrology/water res(14)	-	1	1	-	-	-	-	1	1	-	-	-	-	2
Marine sciences(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Meteorology(16)	2	2	4	-	-	1	-	-	1	-	-	-	-	2
Mineral, petrol, geochem(11)	1	1	2	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	-	-	-	-	-	-	-	1	2	-	1	-	-	4
Oceanography	-	4	4	-	-	1	1	1	1	2	1	-	1	8
Paleontology	2	1	3	-	-	-	-	1	-	-	-	1	1	3
Stratigraphy, sediment	-	-	-	1	-	-	-	-	-	-	-	-	-	1
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earth sciences, general(17)	8	20	28	2	1	2	3	17	2	2	1	4	3	37
Earth sciences, other(17)	2	2	4	-	-	3	-	-	-	1	1	2	-	7
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MATHEMATICS	36	87	123	15	12	17	27	40	27	17	22	17	17	211
Algebra	-	1	1	-	-	-	-	-	-	-	-	-	-	-
Analysis/funct analysis(18)	3	1	4	1	-	-	2	-	-	-	1	1	-	5
Applied mathematics	7	9	16	6	1	3	4	4	4	2	1	2	3	30
Computing theory	-	4	4	-	-	-	7	6	3	1	-	-	-	17
Geometry	-	1	1	-	-	-	-	-	-	-	-	-	-	-
Logic	-	2	2	-	-	1	-	-	-	-	-	-	-	1
Math probability/stat(19)	4	8	12	2	-	2	1	2	2	3	2	-	1	15
Number theory	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operations research	-	-	-	-	-	-	-	2	-	-	1	1	-	4
Topology	1	-	1	-	-	-	-	-	-	1	-	-	-	1
Mathematics, general	21	56	77	5	10	11	13	26	18	10	16	12	13	134
Mathematics, other	-	5	5	1	1	-	-	-	-	-	1	1	-	4
COMPUTER & INFO SCI	-	-	-	-	-	-	-	-	-	-	3	5	3	11
Computer sciences	-	-	-	-	-	-	-	-	-	-	3	5	3	11
Information sci/systems(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
UNKNOWN CITIZENSHIP													
TOTAL, S&E	451	597	744	692	737	808	1,254	1,351	1,475	1,719	9,828	946	1,321
TOTAL, SCIENCES	377	482	593	563	606	655	976	1,084	1,155	1,345	7,836	666	940
PHYSICAL SCIENCES	60	82	78	79	91	118	185	187	216	237	1,333	111	171
Physics/astronomy	28	38	31	27	39	44	88	83	94	111	583	36	56
Astronomy(1)	1	1	-	-	2	1	-	3	4	4	16	2	2
Astronomy/astrophysics(1)	-	-	-	-	-	-	-	-	-	-	-	-	-
Astrophysics(1)	-	-	-	-	-	1	1	1	2	1	6	-	1
Atomic/molecular	-	1	-	-	-	-	-	-	1	-	2	-	-
Electromagnetism(3)	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	-	-	-	-	-	1	1	1	-	-	3	-	-
Fluids	1	-	-	-	-	-	-	-	-	-	1	-	-
Mechanics(4)	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(5)	-	-	-	1	-	-	-	-	1	-	2	-	-
Optics	-	2	-	-	1	2	4	-	-	7	16	-	2
Plasma	-	-	-	1	1	-	1	1	-	1	5	-	-
Solid state	1	1	-	-	-	-	1	2	-	-	5	-	-
Thermal(8)	-	-	-	-	-	-	-	-	-	-	-	-	-
Physics, general	25	32	28	21	32	35	71	67	75	86	472	34	45
Physics, other	-	1	3	4	3	4	9	8	11	12	55	-	6
Chemistry	32	44	47	52	52	74	97	104	122	126	750	75	115
Agricultural/food	-	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	-	-	-	1	1	1	-	-	2	-	5	1	1
Inorganic	-	2	1	-	-	2	2	4	5	1	17	1	-
Nuclear	-	-	-	-	-	-	-	-	-	-	-	-	-
Organic	2	1	2	1	2	5	4	7	8	2	34	1	2
Pharmaceutical	2	1	2	4	1	3	-	3	3	1	20	1	2
Physical	-	1	1	1	2	2	1	-	7	-	15	-	2
Polymer	-	-	-	2	-	-	-	-	-	1	3	-	1
Theoretical	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemistry, general	28	38	39	40	42	57	83	85	92	117	621	65	105
Chemistry, other	-	1	2	3	4	4	7	5	5	4	35	6	2
EARTH, ATMOS, OCEAN SCI	10	10	19	18	9	24	37	53	49	57	286	36	39
Applied geo, geo eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Applied geology(9)	-	1	-	-	-	-	-	-	-	-	1	-	-
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	2	1	-	3	2	8
Atmos/meteorol sci, other	-	-	-	3	1	1	-	-	1	-	6	-	-
Atmospheric dynamics	-	-	-	-	-	-	1	1	-	-	2	-	-
Atmospheric phys/chem	-	-	-	-	-	-	2	6	-	-	8	-	-
Environmental sciences(10)	-	-	2	-	1	1	1	2	4	3	14	-	4
Geochemistry(11)	1	-	1	-	-	-	1	1	2	3	9	-	1
Geology(12)	-	-	-	7	2	3	10	14	15	22	73	11	9
Structural geology(12)	1	-	-	-	-	-	-	-	-	-	1	-	-
Geophysics/seismology(13)	3	1	2	3	3	5	10	3	4	8	42	4	-
Geophysics(13)	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	-	1	2	-	-	2	3	1	1	1	11	-	-
Marine sciences(6)	-	-	-	-	-	-	-	1	-	-	1	-	-
Meteorology(16)	-	-	-	-	-	-	-	-	2	4	6	1	1
Mineral, petrol, geochem(11)	-	-	-	-	-	-	-	-	-	-	-	-	-
Minerology, petrology(11)	-	-	-	-	-	-	-	-	1	-	1	-	-
Oceanography	2	1	5	-	2	3	4	11	10	10	48	10	3
Paleontology	-	-	-	-	-	2	-	2	-	-	4	-	1
Stratigraphy, sediment	-	-	1	-	-	-	-	-	-	-	1	-	-
Geological sciences, gen(17)	-	-	-	2	-	2	3	1	2	1	11	6	10
Geological sciences, oth(17)	-	-	-	3	-	-	-	-	-	2	5	-	-
Earth sciences, general(17)	3	6	5	-	-	-	-	-	-	-	14	-	-
Earth sciences, other(17)	-	-	1	-	-	-	-	-	-	-	1	-	-
Physical sciences, other(6)	-	-	-	-	-	5	2	8	6	3	24	2	2
MATHEMATICS	23	17	29	35	23	32	55	42	58	85	399	46	66
Algebra	-	-	-	-	1	-	-	1	-	-	2	1	-
Analysis/funct analysis(18)	-	-	1	-	-	-	-	1	1	-	3	-	-
Applied mathematics	2	1	-	3	4	6	6	1	4	4	31	2	1
Computing theory	-	-	-	-	-	-	-	-	1	-	1	-	-
Geometry	-	-	-	-	-	-	-	-	-	-	-	-	-
Logic	-	-	-	-	-	-	-	-	-	-	-	-	-
Math probability/stat(19)	1	1	3	3	2	1	7	6	6	8	38	7	6
Number theory	-	-	-	-	-	-	-	-	-	-	-	-	1
Operations research	1	2	-	-	-	-	1	-	-	-	4	-	-
Topology	-	-	-	-	-	-	-	-	1	-	1	-	-
Mathematics, general	18	13	24	29	16	24	39	31	45	73	312	36	58
Mathematics, other	1	-	1	-	-	1	2	2	-	-	7	-	-
COMPUTER & INFO SCI	6	4	6	7	11	8	27	32	13	38	152	31	18
Computer sciences	6	4	6	7	10	8	23	27	13	35	139	26	14
Information sci/systems(6)	-	-	-	-	1	-	4	5	-	3	13	5	4

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate 1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
UNKNOWN CITIZENSHIP														
AGRIC & BIOL SCI	95	192	287	28	81	83	80	187	85	108	106	103	104	965
Agricultural sciences	9	35	44	3	3	4	4	23	5	8	11	13	17	91
Agronomy	1	9	10	-	-	1	1	6	-	3	2	5	3	21
Animal breeding/genetics(21)	2	8	10	2	1	-	-	-	-	-	1	-	1	5
Animal nutrition(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sci/nutrition(22)	-	-	-	-	-	-	-	7	1	1	-	3	2	14
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sciences, other(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fish/wildlife(23)	1	-	1	-	-	-	-	-	-	1	-	-	-	1
Fisheries science(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife management(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences(24)	-	-	-	-	-	-	-	2	1	-	2	2	2	9
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry science(25)	-	2	2	1	-	-	-	2	1	-	2	-	1	7
Forest engineering(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Renewable natrl rsrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horticulture science	2	2	4	-	-	-	-	-	1	1	1	1	2	6
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phytopathology(26)	1	4	5	-	1	-	2	4	-	-	-	-	4	11
Plant sciences, other(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soil sciences(28)	-	4	4	-	-	1	1	2	1	1	2	-	-	8
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agriculture, general	-	2	2	-	1	-	-	-	-	1	-	-	1	3
Agriculture, other	2	4	6	-	-	2	-	-	-	-	1	2	1	6
Biological sciences	86	157	243	25	78	79	76	164	80	100	95	90	87	874
Anatomy	1	1	2	3	4	4	1	11	3	5	8	3	1	43
Biochemistry	14	32	46	5	12	16	17	21	10	17	19	12	12	141
Biometrics/biostat	-	-	-	-	1	1	-	1	1	-	-	-	-	4
Biophysics	1	8	9	-	5	7	5	8	14	10	9	7	6	71
Botany, other(29)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Botany(29)	12	12	24	-	-	3	1	11	-	2	1	6	1	25
Cell biology(30)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cytology(30)	1	-	1	-	1	-	2	-	-	3	2	1	-	9
Devel bio/embryology(31)	1	2	3	-	-	-	-	-	-	-	-	-	-	-
Ecology	-	-	-	-	-	2	-	2	-	-	-	-	-	4
Endocrinology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Entomology	4	9	13	-	1	1	2	8	1	1	1	4	2	21
Human/animal genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Genetics(32)	4	6	10	2	-	4	-	5	4	5	4	2	2	28
Human/animal pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pathology(33)	1	-	1	-	5	5	11	9	7	2	8	-	2	49
Human/animal pharmacol	5	8	13	2	4	3	2	18	5	8	2	6	6	56
Human/animal physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal physiology(34)	6	12	18	5	4	2	1	8	2	2	3	12	4	43
Animal/plant physiol(34)	4	-	4	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	-	1	1	-	-	-	1	2	1	-	-	-	1	5
Immunology	-	-	-	-	-	-	-	1	-	2	5	2	-	10
Microbiology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bacteriology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Microbiology/bacteriol(35)	9	8	17	1	9	7	4	17	4	16	7	8	13	86
Molecular biology	-	1	1	-	-	-	1	1	-	1	-	-	1	4
Neurosciences	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutritional sciences(36)	-	-	-	-	-	-	-	-	-	1	-	3	3	7
Parasitology	-	-	-	-	-	-	-	1	-	1	-	-	-	2
Toxicology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology, other(37)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoology(37)	17	11	28	-	2	1	5	13	5	1	5	6	7	45
Biological sci, general	3	39	42	4	15	17	16	20	17	14	13	14	18	148
Biological sci, other	3	7	10	3	15	6	7	7	6	9	8	4	8	73

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
UNKNOWN CITIZENSHIP													
AGRIC & BIOL SCI	88	123	137	118	143	143	226	261	292	288	1,819	146	201
Agricultural sciences	11	28	21	23	23	30	51	55	60	80	382	50	41
Agronomy	1	4	3	2	2	7	14	9	7	7	56	5	4
Animal breeding/genetics(21)	-	-	-	-	-	1	-	-	-	1	2	-	-
Animal nutrition(22)	-	-	-	2	1	-	-	2	1	-	6	-	1
Animal sci/nutrition(22)	3	6	5	-	-	-	-	-	-	-	14	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	2	3	5	-	2
Poultry science(22)	-	-	-	-	-	-	-	-	-	1	1	-	1
Animal sciences, other(22)	-	-	-	2	5	3	7	4	8	7	36	6	5
Fish/wildlife(23)	1	2	-	-	-	-	-	-	-	-	3	-	-
Fisheries science(23)	-	-	-	-	-	1	3	3	5	2	14	1	-
Wildlife management(23)	-	-	-	1	-	1	1	1	-	-	4	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	3	3	3	-
Food sciences(24)	-	2	2	8	4	4	5	8	1	-	34	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	1	1
Food sciences, other(24)	-	-	-	-	-	-	-	-	6	13	19	5	7
Forestry science(25)	1	4	5	2	1	3	4	7	-	-	27	-	-
Forest engineering(25)	-	-	-	-	-	-	-	-	1	-	1	-	-
Forest management(25)	-	-	-	-	-	-	-	-	1	-	1	-	-
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	1
Renewable natrl rsrces(25)	-	-	-	-	-	-	-	-	-	1	1	-	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	12	12	24	10	2
Horticulture science	1	5	1	3	2	3	5	5	4	6	35	5	1
Plant breeding/genetics(26)	-	-	-	-	2	-	-	1	2	3	8	1	2
Plant pathology(26)	-	-	-	-	2	1	3	5	-	7	18	2	7
Phytopathology(26)	2	1	2	-	-	-	-	-	-	-	5	-	-
Plant sciences, other(26)	-	-	-	1	-	1	-	1	3	-	6	1	-
Soil sciences(28)	-	1	1	-	-	2	2	5	-	-	11	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	5	5	10	5	1
Agriculture, general	-	-	-	-	-	2	-	2	2	1	7	1	1
Agriculture, other	2	3	2	2	4	1	7	2	-	8	31	4	5
Biological sciences	77	95	116	95	120	113	175	206	232	208	1,437	96	160
Anatomy	1	4	7	5	3	3	5	3	8	2	41	1	1
Biochemistry	12	16	17	23	19	12	24	29	33	22	207	10	20
Biometrics/biostat	-	1	2	3	-	1	-	2	3	1	13	3	2
Biophysics	6	1	2	3	5	2	3	7	8	5	42	3	2
Botany, other(29)	-	-	-	3	4	3	7	7	10	8	42	1	5
Botany(29)	4	7	2	-	-	-	-	-	-	-	13	-	-
Cell biology(30)	-	-	-	3	3	2	7	2	6	3	26	7	3
Cytology(30)	-	1	3	-	-	-	-	-	-	-	4	-	-
Devel bio/embryology(31)	-	-	-	-	-	-	-	-	-	-	-	-	1
Ecology	1	3	-	2	-	1	3	5	4	3	22	-	3
Endocrinology(6)	-	-	-	-	-	-	1	1	-	-	2	-	-
Entomology	3	1	2	3	4	5	14	10	7	4	53	1	4
Human/animal genetics(32)	-	-	-	2	5	2	2	7	9	15	42	3	1
Plant genetics(32)	-	-	-	-	-	-	-	-	-	-	-	1	-
Genetics(32)	3	2	1	-	-	-	-	-	-	-	6	-	-
Human/animal pathology(33)	-	-	-	2	5	2	4	6	5	3	27	-	6
Plant pathology(33)	-	-	-	-	1	-	1	-	-	-	2	2	3
Pathology(33)	3	5	2	-	-	-	-	-	-	-	10	-	-
Human/animal pharmacol	3	5	11	7	4	8	15	11	16	14	94	3	4
Human/animal physiol(34)	-	-	-	4	3	13	10	16	8	11	65	10	12
Animal physiology(34)	1	2	2	-	-	-	-	-	-	-	5	-	-
Animal/plant physiol(34)	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	2	1	-	-	-	-	-	1	-	-	4	-	3
Immunology	-	1	4	-	2	1	5	4	4	5	26	2	4
Microbiology(35)	-	-	-	5	11	10	12	15	14	21	88	7	4
Bacteriology(35)	-	-	-	1	1	-	-	2	-	-	4	1	1
Microbiology/bacteriol(35)	11	7	10	-	-	-	-	-	-	-	28	-	-
Molecular biology	-	4	8	1	3	3	2	6	4	6	37	-	6
Neurosciences	-	-	1	-	3	3	1	4	6	4	22	5	4
Nutritional sciences(36)	2	4	10	2	6	1	5	9	7	10	56	5	5
Parasitology	-	1	-	-	-	-	1	1	-	-	3	-	-
Toxicology(6)	-	-	-	-	1	3	-	1	8	8	21	3	1
Zoology, other(37)	-	-	-	3	1	10	10	8	6	8	46	1	4
Zoology(37)	4	6	5	-	-	-	-	-	-	-	15	-	-
Biological sci, general	18	16	22	19	28	22	33	38	45	39	280	20	41
Biological sci, other	3	7	5	4	8	6	10	11	21	16	91	7	20

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate										
				1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
UNKNOWN CITIZENSHIP														
SOCIAL SCIENCES	161	273	434	42	50	92	77	175	84	72	71	97	93	853
Agricultural economics	-	-	-	-	1	2	1	2	1	3	2	4	6	22
Anthropology	10	14	24	7	4	11	11	17	10	11	10	13	10	104
Area studies	-	2	2	-	1	-	-	1	1	2	1	1	1	8
Criminology(38)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Demography(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Econometrics	-	2	2	-	-	-	-	-	-	-	-	1	1	2
Economics	61	93	154	11	9	19	21	32	23	15	18	31	19	198
Geography	5	4	9	3	-	3	2	13	4	2	3	2	4	36
History of science(39)	-	-	-	-	-	-	-	-	-	1	-	-	1	2
International relations	11	5	16	1	3	4	4	2	1	1	-	1	-	17
Linguistics	4	13	17	1	5	6	2	9	2	-	6	8	9	48
Pol sci/government(40)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Political science(40)	-	-	-	-	-	-	-	-	-	12	13	15	26	66
Pol sci, public admin(40)	47	82	129	14	16	25	16	41	16	1	-	-	-	129
Public policy studies(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sociology	21	42	63	3	7	12	11	36	13	17	11	12	8	130
Statistics	-	5	5	-	2	2	4	4	4	1	1	2	-	20
Urban studies(41)	-	-	-	-	-	4	-	4	1	2	2	2	2	17
Social sciences, general	-	2	2	-	-	-	-	3	3	2	1	1	1	11
Social sciences, other	2	9	11	2	2	4	5	11	5	2	3	4	5	43
PSYCHOLOGY	40	99	139	16	32	32	43	123	43	29	96	136	123	673
Clinical	4	6	10	2	5	2	4	15	5	3	9	75	69	189
Cognitive(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Comparative(42)	1	-	1	-	-	-	-	-	-	-	-	-	-	-
Counseling(43)	3	-	3	1	2	1	1	1	1	2	2	4	2	17
Developmental(44)	4	4	8	-	-	-	-	8	-	-	-	2	-	10
Educational	-	3	3	-	-	2	2	7	3	-	1	2	4	21
Experimental(42)	8	4	12	2	-	2	1	1	2	2	-	-	1	11
Indust/organizational(45)	1	1	2	-	-	-	1	-	-	1	-	1	-	3
Physiological(42)	1	3	4	-	-	2	-	-	-	-	-	-	1	3
Personality	3	1	4	-	-	2	1	-	-	-	-	-	1	4
Psychometrics	3	1	4	-	-	-	-	-	-	-	-	-	1	1
School	-	1	1	-	1	-	2	-	-	-	5	1	4	13
Social	5	9	14	-	2	1	2	-	-	-	-	-	2	7
Psychology, general	6	49	55	9	7	10	20	88	28	19	49	46	34	310
Psychology, other	1	17	18	2	15	10	9	3	4	2	30	5	4	84
TOTAL, ENGINEERING	53	274	327	20	32	32	43	176	53	74	74	69	60	633
Aerospace,aero/astronaut(46)	1	9	10	-	-	2	2	2	1	2	2	2	1	14
Agricultural	-	-	-	-	-	1	-	4	-	1	1	-	-	7
Bioengineering/biomed(47)	-	-	-	-	1	-	-	-	1	2	1	2	-	7
Ceramic	-	-	-	-	-	-	-	3	-	-	1	-	2	6
Chemical	8	22	30	1	4	3	8	9	4	11	4	5	4	53
Civil	14	37	51	1	3	1	4	37	9	15	3	8	9	90
Communications(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Computer	-	-	-	-	-	-	-	-	-	3	-	-	1	4
Electrical/electronics(48)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical(48)	12	65	77	4	9	7	10	53	9	15	21	19	13	160
Electronics(48)	2	2	4	-	2	-	-	-	-	1	-	-	-	3
Engineering mechanics	-	7	7	1	1	1	1	3	-	-	1	4	2	14
Engineering physics(49)	1	5	6	-	-	-	1	-	-	-	-	-	-	1
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Environmental health eng(50)	-	1	1	1	-	-	-	1	-	1	-	2	-	5
Fuel tech/petro eng(9)	-	1	1	1	-	-	-	-	-	-	2	-	-	3
Industrial	1	8	9	-	-	-	1	6	2	1	3	-	5	18
Materials science	-	-	-	-	-	-	2	7	8	7	6	1	2	33
Mechanical	6	43	49	1	-	4	3	11	6	2	12	4	3	46
Metallurgical(51)	5	35	40	3	3	-	3	5	-	1	1	2	1	19
Mining/mineral(52)	-	-	-	-	1	-	-	-	1	-	-	-	-	2
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(49)	-	8	8	1	1	2	-	3	2	3	5	2	2	21
Ocean(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operations research	-	-	-	-	-	1	2	1	-	-	3	1	1	9
Petroleum(53)	-	-	-	-	-	-	1	6	2	-	-	-	2	11
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Systems(54)	-	-	-	-	-	-	-	-	-	-	2	1	3	6
Engineering, general	2	17	19	5	3	5	3	15	6	4	1	9	5	56
Engineering, other	1	14	15	1	4	5	2	10	2	5	5	7	4	45
TOTAL, NON-S&E(55)	294	877	1,171	253	232	318	333	667	254	307	345	324	405	3,438
TOTAL, ALL FIELDS	846	2,163	3,009	435	512	638	670	1,519	620	654	781	819	868	7,516

See footnotes at end of table.

Table 2. Science and engineering (S&E) doctorates awarded, by citizenship status and subfield of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Citizenship status and subfield	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total 1980-1989	1990	1991
UNKNOWN CITIZENSHIP													
SOCIAL SCIENCES	72	126	153	146	146	158	234	231	275	281	1,822	126	182
Agricultural economics	3	1	3	10	5	12	14	12	20	20	100	7	13
Anthropology	7	14	8	14	18	14	23	27	17	24	166	11	11
Area studies	1	2	1	4	2	2	9	3	3	5	32	1	4
Criminology(38)	-	1	1	-	-	-	-	4	4	2	12	-	1
Demography(6)	-	-	-	1	1	-	-	-	-	1	3	-	1
Econometrics	-	-	-	-	-	-	-	-	-	-	-	-	-
Economics	18	32	49	35	33	34	57	64	58	81	461	34	39
Geography	5	4	8	3	3	8	8	5	4	8	56	2	6
History of science(39)	-	-	1	1	2	1	1	-	-	1	7	-	1
International relations	2	7	5	1	10	5	4	3	12	5	54	-	8
Linguistics	5	9	15	8	4	8	14	15	16	21	115	13	15
Pol sci/government(40)	-	-	-	20	25	35	46	41	57	45	269	17	23
Political science(40)	16	20	27	-	-	-	-	-	-	-	63	-	-
Pol sci, public admin(40)	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	1	-	1	1	4	5	1	13	-	-
Sociology	9	14	19	25	19	21	28	34	39	30	238	10	17
Statistics	-	1	2	5	3	5	8	3	3	8	38	1	2
Urban studies(41)	-	12	3	10	9	3	6	11	14	8	76	13	10
Social sciences, general	3	2	4	1	3	4	7	-	8	4	36	1	6
Social sciences, other	3	7	7	7	9	5	8	5	15	17	83	16	25
PSYCHOLOGY	118	120	171	160	183	172	212	278	252	359	2.025	170	263
Clinical	47	24	39	54	57	60	67	106	87	160	701	89	114
Cognitive(6)	-	-	-	-	-	-	-	2	1	-	3	-	-
Comparative(42)	-	-	-	-	-	-	-	-	-	1	1	-	-
Counseling(43)	3	1	4	3	6	6	12	10	10	17	72	2	15
Developmental(44)	-	-	-	1	2	1	1	3	2	1	11	1	2
Educational	5	2	6	4	12	4	9	5	6	13	66	3	5
Experimental(42)	1	2	5	5	-	-	-	2	-	2	17	-	3
Indust/organizational(45)	-	-	-	-	1	1	1	1	2	1	7	5	4
Physiological(42)	-	1	-	2	-	-	-	-	-	-	3	-	-
Personality	-	-	-	1	1	-	-	-	1	-	3	-	-
Psychometrics	-	-	-	-	-	-	-	-	-	-	-	-	-
School	1	2	5	3	4	1	7	2	8	7	40	1	6
Social	-	3	4	2	3	1	1	-	1	-	15	1	-
Psychology, general	38	61	45	63	79	75	99	137	120	138	855	55	96
Psychology, other	23	24	63	22	18	23	15	10	14	19	231	13	18
TOTAL, ENGINEERING	74	115	151	129	131	153	278	267	320	374	1,992	280	381
Aerospace,aero/astronaut(46)	3	6	4	4	4	3	13	11	21	12	81	16	20
Agricultural	1	-	1	-	2	-	2	2	-	5	13	2	5
Bioengineering/biomed(47)	2	1	1	1	3	3	7	2	6	3	29	4	5
Ceramic	-	-	1	-	-	1	1	1	2	2	8	-	-
Chemical	8	13	19	11	16	11	31	17	37	28	191	14	22
Civil	6	13	13	13	20	14	31	39	27	26	202	28	32
Communications(6)	-	-	-	1	-	1	3	-	1	-	6	-	1
Computer	-	1	1	2	2	6	3	-	4	6	25	12	10
Electrical/electronics(48)	-	-	-	25	30	45	70	76	83	94	423	66	74
Electrical(48)	17	24	34	4	1	-	-	-	-	-	80	-	-
Electronics(48)	-	1	-	-	-	-	-	-	-	-	1	-	-
Engineering mechanics	4	3	1	3	2	5	4	5	6	12	45	9	15
Engineering physics(49)	2	-	-	-	-	-	-	-	-	-	2	-	-
Engineering science(6)	-	-	-	-	-	-	2	3	5	2	12	-	3
Environmental health eng(50)	-	1	2	1	-	-	7	2	5	3	21	-	5
Fuel tech/petro eng(9)	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	5	4	2	3	6	6	2	7	10	12	57	3	13
Materials science	4	5	17	14	1	7	11	12	15	23	109	15	21
Mechanical	7	11	13	11	18	18	34	41	49	65	267	43	64
Metallurgical(51)	2	3	8	2	2	3	4	6	5	8	43	2	2
Mining/mineral(52)	-	1	1	-	-	1	1	2	-	-	6	2	5
Naval arch/marine engin(2)	-	-	-	-	-	-	-	1	2	1	4	2	-
Nuclear(49)	5	6	6	8	6	5	7	11	6	13	73	30	26
Ocean(6)	-	-	-	2	-	-	1	2	5	6	16	3	3
Operations research	-	-	2	2	1	1	4	2	1	1	14	3	-
Petroleum(53)	-	2	4	5	2	2	2	1	3	4	25	2	1
Polymer(6)	-	-	-	-	1	-	1	-	1	-	3	1	2
Systems(54)	-	2	2	3	-	3	1	3	1	3	18	4	2
Engineering, general	7	13	11	10	5	13	14	10	9	21	113	9	35
Engineering, other	1	5	8	4	9	5	22	11	16	24	105	10	15
TOTAL, NON-S&E(55)	413	478	544	457	517	567	852	841	909	926	6,504	456	743
TOTAL, ALL FIELDS	864	1,075	1,288	1,149	1,254	1,375	2,106	2,192	2,384	2,645	16,332	1,402	2,064

See footnotes at end of table.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

FOOTNOTES

[A hyphen (-) in a data column signifies that the subfield was not identified separately in the questionnaire for that year (e.g., the subfield "polymer chemistry" was introduced in 1973), or that this subfield was included in the questionnaire for that year but no doctorates were reported.]

(1) "Astronomy" and "astrophysics" were combined until 1969 when separate subfields were introduced.

(2) This subfield was introduced in 1983 and deleted in 1991.

(3) This subfield was originally called "electricity and magnetism." In 1966 the name was changed to "electromagnetism." In 1980 this subfield was deleted from the taxonomy.

(4) "Thermal physics" was originally shown as one subfield, "mechanics and heat." In 1960 this subfield was separated into "mechanics" and "heat (thermal)." The latter was subsequently changed to "thermal phenomena" in 1963 and then to "thermal physics" in 1967. "Mechanics" was deleted from the taxonomy in 1977. Also see footnote 8.

(5) This subfield was originally named "nuclear structure." It was changed to "nuclear" in 1983.

(6) This subfield was introduced in 1983.

(7) "Theoretical physics" was deleted in 1962, but a few degrees were reported for 1962 and 1963 because outdated forms were used by some institutions.

(8) "Thermal physics" was added in 1960 under the original name of "heat (thermal)." It was deleted in 1982. See footnote 4 for more information.

(9) In 1960 "geophysical engineering" and "geological engineering" were merged into "geo-engineering." "Geo-engineering" became "applied geology, geological engineering, economic geology, and petroleum engineering" in 1962, and was split into "applied geology, geological engineering, and economic geology" and "fuel technology and petroleum engineering" in 1969. "Fuel technology and petroleum engineering" was discontinued in this major group, and in 1983 "applied geology, geological engineering, and economic geology" was replaced by "applied geology." "Applied geology" was deleted in 1991. Also see footnote 53.

(10) "Environmental sciences, general" and "environmental sciences, other" were deleted in 1983, and "environmental sciences" was introduced.

(11) "Mineralogy, petrology, and geochemistry" was split into "geochemistry" and "mineralogy, petrology" in 1969.

(12) "Structural geology" was deleted in 1983, and "geology" was introduced.

(13) "Geophysics" was replaced by "geophysics, solid earth" in 1976. It was changed to "geophysics and seismology" in 1983.

(14) This subfield was originally listed as "hydrology." "Water resources" was added to the title in 1977.

(15) "Marine sciences, other" was introduced in 1977 and deleted in 1983.

(16) "Meteorology" was deleted in 1976 and restored in 1983.

FOOTNOTES (continued)

(17) "Earth sciences, general" and "earth sciences, other" were deleted in 1983, and "geological sciences, general" and "geological sciences, other" were introduced.

(18) This subfield was specified as "analysis" through 1967. "Functional analysis" was added in 1968.

(19) "Math statistics" was removed from the name of this subfield in 1969 but was restored in 1972.

(20) "Agricultural business and management" was introduced in 1988.

(21) This subfield was previously called "animal husbandry." It was changed to "animal breeding and genetics" in 1983.

(22) The "animal sciences" subfield was introduced in 1972. The name was changed to "animal science and animal nutrition" in 1977. The field was separated into "animal nutrition" and "animal sciences, other" in 1983. In 1988 "dairy science" and "poultry science" were introduced.

(23) "Fish and wildlife" was split into two separate subfields in 1983. In 1988 "wildlife management" was discontinued, and "wildlife/range management" was introduced.

(24) This subfield was introduced as "food science and technology" in 1969. The name was changed to "food sciences" in 1983. In 1988 the field was separated into "food distribution," "food engineering," and "food sciences, other."

(25) In 1988 "forestry science" was separated into "forestry biology," "forest engineering," "forest management," "wood science," "renewable natural resources," and "forestry and related sciences, other."

(26) "Phytopathology" was discontinued in 1983 and the subfields "plant breeding and genetics," "plant pathology," and "plant sciences, other" were introduced.

(27) "Plant protection-pest management" was introduced in 1988 and deleted in 1991.

(28) This subfield was changed from "soils and soil science" to "soil sciences" in 1983. In 1988 "soil sciences" was separated into "soil chemistry/microbiology" and "soil sciences, other."

(29) The subfield "botany" was discontinued in 1983, and "botany, other" was introduced.

(30) "Cytology" was introduced in 1962 and discontinued in 1983. "Cell biology" was introduced in 1983.

(31) "Embryology" was changed to "developmental biology/embryology" in 1990.

(32) "Genetics" was split into "plant genetics" and "human and animal genetics" in 1983.

(33) "Pathology" was split into "plant pathology" and "human and animal pathology" in 1983.

(34) In 1962 "animal and plant physiology" was separated into "animal physiology" and "plant physiology." In 1983 "animal physiology" was replaced by "human and animal physiology."

(35) This subfield was originally called "microbiology." "Bacteriology" was added in 1970. In 1983 they were split into two separate subfields.

FOOTNOTES (continued)

(36) The subfield "nutrition" was discontinued in 1963. "Nutrition and dietetics" was introduced in 1976 and was replaced by "nutritional sciences" in 1983.

(37) The subfield "zoology" was discontinued in 1983, and "zoology, other" was introduced.

(38) This subfield was introduced in 1980 as "criminology and criminal justice." The name was changed to "criminology" in 1983.

(39) The subfield "history and philosophy of science" was introduced in 1971. The name was changed to "history of science" in 1983.

(40) "Political science, public administration" was split into two separate subfields in 1976. "Public administration" was not included in science and engineering fields after 1976. In 1983 "political science and government" replaced "political science."

(41) This subfield was changed from "urban and regional planning" to "urban studies" in 1983.

(42) "Experimental, comparative, and physiological psychology" was split into three separate subfields in 1962.

(43) This subfield was changed from "counseling and guidance" to "counseling" in 1983.

(44) This subfield was changed from "developmental and gerontological" to "developmental" in 1983.

(45) This subfield was changed from "industrial and personnel" to "industrial and organizational" in 1983.

(46) This subfield was originally named "aeronautical engineering." In 1966 the term "astronautical" was added, and in 1983 the term "aerospace" was added.

(47) "Biomedical" was introduced in 1969, and "bioengineering" was added in 1983.

(48) "Electrical engineering" and "electronics engineering" were merged in 1983.

(49) In 1961 "nuclear engineering" was deleted from the taxonomy, and previous cases were added to "engineering physics." In 1969 "nuclear engineering" was reinstated in the taxonomy.

(50) "Environmental health engineering" was called "sanitary and environmental engineering" prior to 1983.

(51) This subfield was originally specified as "metallurgy and metallurgical engineering." The term "physical" was introduced in 1967. It was changed to "metallurgical" in 1983.

(52) "Mining engineering" was deleted in 1961 but was restored to the taxonomy in 1969. The name was changed to "mining and mineral" in 1983.

(53) The subfield "fuel technology and petroleum engineering" was added to the engineering section of the taxonomy in 1973. The name was changed to "petroleum" in 1983. Also see footnote 9.

(54) This subfield was introduced as "systems design and systems science" in 1975. It was changed to "systems" in 1983.

(55) Non-S&E doctorates awarded include those whose field of specialization is unknown.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

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Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91

Citizenship status, race/ethnicity, subfield	Year of doctorate 1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS NATIVE AMERICAN																
TOTAL, S&E	10	29	22	28	27	26	38	27	31	41	52	52	41	52	41	55
TOTAL, SCIENCES	10	28	20	25	24	22	35	27	28	40	46	45	37	45	37	49
PHYSICAL SCIENCES	-	6	4	1	3	1	3	6	4	3	5	7	6	10	3	10
Physics/astronomy	-	4	1	-	-	-	3	3	1	1	-	1	1	5	-	1
Astrophysics(1)	-	-	-	-	-	-	1	1	-	-	-	-	-	2	-	-
Atomic/molecular	-	1	-	-	-	-	-	-	-	1	-	-	-	1	-	-
Elementary particle	-	-	-	-	-	-	1	1	1	-	-	-	-	1	-	-
Plasma	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid state	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	1
Physics, general	-	2	-	-	-	-	-	-	-	-	-	1	1	1	-	-
Physics, other	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemistry	-	2	3	1	3	1	-	3	3	2	5	6	5	5	3	9
Analytical	-	-	1	-	1	1	-	1	1	1	1	-	-	-	-	5
Inorganic	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-
Organic	-	1	2	1	1	-	-	-	1	-	1	2	1	2	1	2
Pharmaceutical	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-
Physical	-	-	-	-	-	-	-	-	-	-	1	1	1	-	1	1
Theoretical	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Chemistry, general	-	1	-	-	1	-	-	-	-	-	2	1	1	2	1	1
Chemistry, other	-	-	-	-	-	-	-	-	1	1	-	1	-	1	-	-
EARTH, ATMOS, OCEAN SCI	-	-	-	2	2	-	-	2	-	1	2	-	2	6	1	3
Atmospheric dynamics	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Environmental sciences(10)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Geochemistry(11)	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	1
Geology(12)	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-
Geophysics/seismology(13)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Marine sciences(6)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-
Minerology, petrology(11)	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-
Oceanography	-	-	-	-	-	-	-	1	-	-	-	-	1	1	1	1
Paleontology	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Stratigraphy, sediment	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Earth sciences, general(17)	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
MATHEMATICS	-	1	1	-	-	1	1	-	3	-	1	-	2	-	1	-
Applied mathematics	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-
Geometry	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Logic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
Math probability/stat(19)	-	1	-	-	-	-	-	-	1	-	-	-	-	-		
Mathematics, general	-	-	1	-	-	1	-	-	1	-	-	-	2	-	-	
COMPUTER & INFO SCI	-	-	-	1	-	-	1	1	-	-	-	3	1	2	-	1
Computer sciences	-	-	-	1	-	-	1	-	-	-	-	2	-	2	-	1
Information sci/systems(6)	-	-	-	-	-	-	-	1	-	-	-	1	1	-	-	-
AGRIC & BIOL SCI	3	7	7	3	6	7	10	5	11	17	17	13	12	9	8	14
Agricultural sciences	1	1	2	-	1	1	3	1	1	4	-	2	6	2	4	4
Agronomy	-	-	1	-	-	-	-	-	-	1	-	-	1	-	-	1
Animal breeding/genetics(21)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Animal sci/nutrition(22)	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Food sciences(24)	-	-	1	-	1	-	-	-	-	1	-	-	-	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1
Forestry science(25)	-	1	-	-	-	-	1	1	-	2	-	1	-	-	-	-
Forest engineering(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Plant pathology(26)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-
Soil sciences(28)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Agriculture, other	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
Biological sciences	2	6	5	3	5	6	7	4	10	13	17	11	6	7	4	10
Anatomy	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Biochemistry	-	-	-	1	1	1	-	-	1	2	2	-	-	1	-	1
Biometrics/biostat	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Biophysics	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Botany, other(29)	-	-	-	-	-	-	-	-	1	3	1	-	1	-	-	1
Botany(29)	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	-	-	1	1	-	-	-	1	-
Devel bio/embryology(31)	-	1	-	-	1	-	-	-	1	-	-	-	-	-	-	-
Ecology	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-	-
Entomology	-	-	-	1	-	1	1	-	-	-	1	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-
Plant pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Pathology(33)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	-	1	-	-	-	-	2	-	-	-	1	-	-	1	-	-
Human/animal physiol(34)	-	-	-	-	-	-	-	1	1	-	1	1	1	1	-	1
Animal physiology(34)	-	1	-	1	1	1	1	-	-	-	-	-	-	-	-	-
Plant physiology(34)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Immunology	-	-	-	-	-	-	1	-	3	-	2	-	3	-	-	-
Microbiology(35)	-	-	-	-	-	-	-	-	-	1	1	1	-	-	1	1
Bacteriology(35)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Microbiology/bacteriol(35)	-	-	2	-	1	1	-	-	-	-	-	-	-	-	-	-
Molecular biology	-	2	-	-	-	-	-	-	1	3	-	2	-	-	-	3
Neurosciences	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-	1
Nutritional sciences(36)	-	-	-	-	1	1	-	-	-	-	-	-	-	1	-	1
Toxicology(6)	-	-	-	-	-	-	-	-	-	1	2	1	-	-	-	-
Zoology, other(37)	-	-	-	-	-	-	-	1	-	-	-	-	1	1	-	-
Zoology(37)	-	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-
Biological sci, general	-	-	1	-	-	-	-	1	1	-	3	1	-	1	1	-
Biological sci, other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS																
NATIVE AMERICAN																
SOCIAL SCIENCES	3	5	5	8	7	4	4	4	4	9	12	6	7	7	6	8
Agricultural economics	-	1	-	-	-	1	-	-	-	-	-	-	1	-	-	-
Anthropology	-	-	-	2	-	1	-	2	2	3	2	1	2	1	1	1
Area studies	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Criminology(38)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Demography(6)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Economics	1	-	1	2	2	2	-	-	1	2	2	-	-	1	1	1
Geography	1	-	-	-	1	-	-	-	-	-	-	-	1	-	-	1
International relations	-	-	-	-	1	-	-	-	-	-	-	2	-	-	-	-
Linguistics	-	-	2	1	-	-	-	1	-	1	1	-	1	-	1	-
Pol sci/government(40)	-	-	-	-	-	-	-	1	-	1	-	-	-	1	1	2
Political science(40)	1	2	-	-	1	-	1	-	-	-	-	-	-	-	-	-
Sociology	-	1	1	3	2	-	2	-	1	-	4	2	2	1	1	2
Urban studies(41)	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	-
Social sciences, general	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Social sciences, other	-	-	1	-	-	-	-	-	-	1	2	-	-	1	1	1
PSYCHOLOGY	4	9	3	10	6	9	16	9	6	10	9	16	7	11	18	13
Clinical	-	3	2	5	2	4	6	4	2	2	7	5	4	2	8	4
Cognitive(6)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Counseling(43)	-	2	-	1	1	-	4	1	2	3	-	3	1	4	5	4
Developmental(44)	-	-	-	-	-	-	1	1	-	-	-	1	1	1	-	2
Educational	1	1	1	-	1	1	-	-	-	1	-	1	-	-	-	-
Experimental(42)	2	1	-	-	-	1	-	1	1	-	-	-	-	-	-	-
Indust/organizational(45)	-	-	-	1	-	1	-	-	-	1	1	-	-	-	-	-
Physiological(42)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
School	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Social	-	-	-	1	-	-	2	-	-	-	-	-	-	1	1	-
Psychology, general	-	1	-	-	1	-	3	1	1	1	1	5	1	2	2	1
Psychology, other	1	1	-	1	1	2	-	1	-	1	-	1	-	-	2	2
TOTAL, ENGINEERING	-	1	2	3	3	4	3	-	3	1	6	7	4	7	4	6
Aerospace,aero/astronaut(46)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Agricultural	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Bioengineering/biomed(47)	-	-	-	-	1	-	1	-	-	-	1	-	-	-	-	-
Chemical	-	-	1	-	-	-	-	-	2	-	-	1	2	1	-	1
Civil	-	1	-	1	-	1	-	-	1	-	-	-	1	1	2	1
Electrical/electronics(48)	-	-	-	-	-	-	-	-	-	1	2	3	-	-	-	2
Electrical(48)	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Environmental health eng(50)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Materials science	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1	1
Mechanical	-	-	-	1	1	2	-	-	-	-	2	1	1	-	-	1
Metallurgical(51)	-	-	-	-	1	1	-	-	-	-	-	-	-	1	1	-
Mining/mineral(52)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Nuclear(49)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Engineering, general	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
TOTAL, NON-S&E(55)	30	36	38	53	48	59	39	54	43	55	47	63	53	42	55	73
TOTAL, ALL FIELDS	40	65	60	81	75	85	77	81	74	96	99	115	94	94	96	128

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS																
ASIAN																
TOTAL, S&E	248	250	279	306	325	330	327	345	384	373	397	443	451	487	484	577
TOTAL, SCIENCES	189	183	216	237	252	253	255	279	289	283	317	308	310	314	327	392
PHYSICAL SCIENCES	53	39	53	52	54	46	56	66	77	76	75	67	67	75	86	81
Physics/astronomy	19	20	20	20	14	20	21	27	27	19	19	18	19	33	32	22
Acoustics	-	-	1	1	1	-	-	1	-	1	-	-	-	-	-	-
Astronomy(1)	1	-	-	1	1	-	3	-	-	-	3	-	-	-	-	-
Astrophysics(1)	3	2	1	-	1	-	-	-	-	1	2	1	2	-	1	-
Atomic/molecular	2	3	2	3	1	2	2	3	2	1	1	2	1	-	4	3
Electron(2)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Electromagnetism(3)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	2	4	4	3	2	1	2	1	5	6	3	4	2	1	4	4
Fluids	1	-	1	1	-	-	-	1	1	-	1	-	1	-	-	-
Nuclear(5)	3	2	-	2	-	-	-	2	1	-	1	2	2	2	2	-
Optics	1	1	-	-	-	1	-	1	-	1	-	-	3	4	-	1
Plasma	1	1	1	2	-	3	3	4	4	1	2	2	-	2	3	-
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Solid state	2	4	3	2	3	8	5	7	8	4	3	3	2	14	7	7
Physics, general	3	2	4	4	2	4	2	4	3	2	1	1	2	5	8	5
Physics, other	-	1	2	1	3	1	4	3	3	2	2	3	3	4	3	2
Chemistry	34	19	33	32	40	26	35	39	50	57	56	49	48	42	54	59
Agricultural/food	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	1	5	4	1	3	3	3	5	3	5	7	4	8	3	5	6
Inorganic	5	3	4	5	7	4	3	-	2	8	4	3	1	8	6	7
Nuclear	-	-	1	-	-	-	-	-	2	-	-	1	1	-	-	-
Organic	9	3	6	14	12	7	6	5	15	13	18	15	9	11	18	16
Pharmaceutical	1	-	2	-	4	-	2	2	6	6	4	2	3	3	1	4
Physical	12	5	7	5	6	4	10	12	9	8	7	11	11	10	5	15
Polymer	2	-	3	-	2	3	1	2	5	9	5	3	5	4	4	1
Theoretical	-	-	1	2	-	1	-	1	-	-	2	3	-	-	1	-
Chemistry, general	4	3	3	3	2	2	2	10	4	7	4	5	6	2	12	7
Chemistry, other	-	-	2	1	4	2	8	2	4	1	5	2	4	1	2	3
EARTH, ATMOS, OCEAN SCI	2	8	11	4	7	4	12	8	8	8	6	9	8	11	4	7
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	-	-	1	1	-	1	-	-	-
Atmos/meteorol sci, other	-	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-
Atmospheric dynamics	1	-	1	-	-	1	-	-	1	-	-	2	-	-	1	-
Atmospheric phys/chem	-	-	-	-	-	-	-	2	-	1	-	-	-	-	-	-
Environmental sciences(10)	-	1	1	1	2	-	2	1	1	1	1	-	-	1	2	2
Geochemistry(11)	-	-	1	-	1	-	1	-	-	-	-	1	3	1	-	-
Geology(12)	-	-	-	-	-	-	-	1	-	1	-	-	-	2	-	1
Geomorph/glacial geology	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Geophysics/seismology(13)	-	4	6	1	1	-	5	-	-	3	2	1	1	4	-	2
Hydrology/water res(14)	-	-	1	1	-	-	-	1	1	-	-	-	-	-	-	-
Marine sciences(6)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-
Marine sciences, other(15)	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-
Meteorology(16)	-	-	-	-	-	-	-	-	2	-	1	2	1	-	-	-
Minerology, petrology(11)	1	1	-	-	-	-	-	-	-	-	-	1	-	1	-	-
Oceanography	-	1	1	1	2	1	1	-	2	1	1	-	1	1	-	1
Paleontology	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-
Stratigraphy, sediment	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Geological sciences, gen(17)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Earth sciences, general(17)	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Earth sciences, other(17)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
MATHEMATICS	15	14	15	18	12	20	11	13	9	14	14	18	17	13	11	23
Algebra	-	2	-	-	1	-	-	1	3	1	2	2	-	-	-	2
Analysis/funct analysis(18)	3	4	5	2	-	2	1	1	-	1	1	1	2	4	1	2
Applied mathematics	4	-	1	4	2	8	3	1	1	5	2	7	3	3	4	7
Computing theory	2	1	-	-	1	1	-	-	-	-	-	2	-	-	-	2
Geometry	1	-	-	-	1	1	1	1	-	-	1	-	1	-	-	1
Logic	-	-	2	-	-	-	-	-	1	2	-	-	-	-	-	-
Math probability/stat(19)	2	1	3	2	2	6	3	7	3	2	2	5	4	2	1	5
Number theory	1	-	-	1	1	-	1	-	-	-	-	-	1	-	-	1
Operations research	1	1	-	4	2	-	-	-	-	-	1	-	-	-	-	-
Topology	-	1	1	1	1	1	-	1	-	-	-	1	1	1	1	2
Mathematics, general	1	2	1	4	1	1	-	1	-	1	5	-	3	2	4	1
Mathematics, other	-	2	2	-	-	-	2	-	1	2	-	-	2	1	-	-
COMPUTER & INFO SCI	-	-	2	3	2	4	2	6	12	2	12	10	20	18	10	32
Computer sciences	-	-	2	3	2	4	2	6	10	2	12	7	18	14	9	30
Information sci/systems(6)	-	-	-	-	-	-	-	-	2	-	-	3	2	4	1	2

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS																
ASIAN																
AGRIC & BIOL SCI	68	59	78	88	93	98	104	116	110	114	136	123	110	127	127	162
Agricultural sciences	3	9	12	6	9	8	8	15	7	8	12	17	9	7	11	8
Agronomy	-	-	1	1	-	2	2	2	-	1	-	1	2	-	1	1
Animal breeding/genetics(21)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Animal nutrition(22)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Animal sci/nutrition(22)	-	1	1	-	1	-	1	-	-	-	-	-	-	-	-	-
Animal sciences, other(22)	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-
Fish/wildlife(23)	1	1	2	1	-	-	-	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	1	-	-	-	1	-	-	1	1
Wildlife management(23)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Food sciences(24)	1	2	5	3	2	4	1	6	3	3	5	7	1	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	4	1	1	2
Forestry science(25)	-	-	3	-	-	1	-	1	-	1	2	1	-	-	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Horticulture science	-	3	-	1	2	1	2	2	-	-	-	1	1	1	1	-
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	1	2	-	-	1	1	3	-
Plant pathology(26)	-	-	-	-	-	-	-	1	-	1	1	2	-	1	-	1
Phytopathology(26)	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	1	-	-	1	-	1	1	-
Soil sciences(28)	-	-	-	-	3	-	1	1	2	-	1	2	-	-	-	-
Agriculture, other	-	-	-	-	1	-	1	-	-	-	1	-	-	-	1	-
Biological sciences	65	50	66	82	84	90	96	101	103	106	124	106	101	120	116	154
Anatomy	-	-	-	3	3	3	8	2	2	4	2	1	1	-	2	1
Biochemistry	14	8	15	14	23	16	17	17	17	21	23	18	15	24	17	35
Biometrics/biostat	3	2	2	-	2	2	1	2	3	2	-	2	1	5	2	1
Biophysics	1	4	3	3	3	-	4	7	3	4	1	1	5	3	7	5
Botany, other(29)	-	-	-	-	-	-	-	-	1	4	3	1	-	2	1	2
Botany(29)	3	-	2	3	4	2	2	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	5	3	2	3	-	2	3	5	5
Cytology(30)	-	1	-	2	2	-	3	-	-	-	-	-	-	-	-	-
Devel bio/embryology(31)	2	-	1	1	-	1	-	-	-	-	-	-	1	-	-	-
Ecology	1	1	4	3	1	3	-	2	1	5	2	2	1	2	2	2
Endocrinology(6)	-	-	-	-	-	-	-	-	-	1	2	-	-	[illegible]	-	1
Entomology	2	2	2	2	1	7	6	1	2	1	-	3	2	2	-	2
Human/animal genetics(32)	-	-	-	-	-	-	-	1	5	4	3	3	5	5	2	10
Plant genetics(32)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-
Genetics(32)	4	1	1	7	6	3	1	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	5	3	2	6	5	4	3	3	1
Plant pathology(33)	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-	-
Pathology(33)	1	1	-	1	1	2	1	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	5	3	5	4	3	7	10	9	9	10	10	13	6	10	9	6
Human/animal physiol(34)	-	-	-	-	-	-	-	4	5	3	8	4	6	5	11	9
Animal physiology(34)	3	5	6	8	6	8	5	-	-	-	-	-	-	-	-	-
Plant physiology(34)	-	-	1	2	1	-	1	2	3	1	1	3	3	-	4	-
Hydrobiology	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Immunology	1	3	1	4	6	7	5	4	4	5	7	4	8	7	4	7
Microbiology(35)	-	-	-	-	-	-	-	11	10	5	11	8	7	8	6	10
Bacteriology(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Microbiology/bacteriol(35)	8	3	7	11	7	9	9	-	-	-	-	-	-	-	-	-
Molecular biology	1	2	3	4	3	2	8	7	10	11	20	14	13	22	10	23
Neurosciences	-	-	-	-	-	-	1	2	6	2	2	5	6	3	4	18
Nutritional sciences(36)	3	6	3	2	4	2	1	6	3	4	6	3	3	4	5	1
Parasitology	-	-	-	1	-	-	-	-	-	1	1	-	-	-	-	-
Toxicology(6)	-	-	-	-	-	-	-	1	3	4	3	3	1	1	2	3
Zoology, other(37)	-	-	-	-	-	-	-	6	3	4	-	2	2	3	-	1
Zoology(37)	2	2	2	2	1	3	5	-	-	-	-	-	-	-	-	-
Biological sci, general	5	1	3	2	3	10	4	6	4	5	4	6	5	4	12	7
Biological sci, other	4	5	5	2	4	3	4	1	3	-	4	5	3	3	7	3
SOCIAL SCIENCES	34	37	40	43	44	48	45	35	41	35	42	43	51	32	45	44
Agricultural economics	-	1	2	4	-	1	1	1	2	-	2	3	2	-	1	1
Anthropology	3	3	3	4	6	3	4	1	3	7	3	8	3	3	6	2
Area studies	2	-	-	-	-	1	1	-	-	-	1	-	1	-	-	1
Criminology(38)	-	-	-	-	-	-	-	1	-	1	-	1	1	-	-	-
Demography(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Econometrics	-	1	1	-	-	-	1	-	-	-	-	-	1	-	1	-
Economics	8	4	10	5	14	13	16	11	10	8	14	15	21	15	21	18
Geography	1	1	-	4	5	3	-	-	1	2	2	1	1	1	-	-
History of science(39)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
International relations	3	1	1	2	-	-	2	-	1	-	1	-	1	-	1	1
Linguistics	1	7	3	4	5	4	2	5	4	7	3	3	1	-	1	2
Pol sci/government(40)	-	-	-	-	-	-	-	5	7	6	3	2	3	4	4	7
Political science(40)	4	7	4	3	5	9	5	-	-	-	-	-	-	-	-	-
Pol sci, public admin(40)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	-	-	1	1	-	-	1	4	2
Sociology	4	8	9	12	5	10	6	7	10	2	8	8	8	7	10	5
Statistics	1	1	4	-	2	2	1	1	-	1	2	-	3	-	2	-
Urban studies(41)	1	2	1	3	1	1	3	1	1	-	-	1	2	-	1	-
Social sciences, general	-	-	1	1	-	-	2	1	1	-	-	-	-	-	-	-
Social sciences, other	2	1	1	1	1	1	1	1	1	-	2	1	3	1	2	4

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS																
ASIAN																
PSYCHOLOGY	17	26	17	29	40	33	25	35	32	34	32	38	37	38	44	43
Clinical	6	5	2	11	17	12	10	12	14	15	21	21	14	20	17	15
Cognitive(6)	-	-	-	-	-	-	-	1	-	2	1	1	2	1	1	1
Comparative(42)	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-
Counseling(43)	-	3	-	1	4	4	-	4	1	3	2	4	6	3	2	6
Developmental(44)	2	3	2	2	3	1	3	3	3	3	2	1	1	1	3	5
Educational	-	1	3	1	3	2	3	2	2	2	-	2	-	1	3	2
Experimental(42)	2	1	2	6	2	2	2	1	2	1	1	2	4	1	3	4
Indust/organizational(45)	-	1	1	-	-	-	-	1	-	-	1	1	-	-	2	2
Physiological(42)	2	2	2	2	3	3	3	3	1	1	1	-	3	2	-	-
Quantitative(6)	-	-	-	-	-	-	-	1	1	1	-	-	-	2	-	-
Personality	-	-	1	-	2	1	1	-	-	-	-	-	-	-	-	-
Psychometrics	-	1	-	1	1	-	-	-	-	-	-	1	-	-	-	-
School	-	2	-	-	-	1	-	-	-	1	-	-	-	-	-	-
Social	4	4	-	2	4	1	-	3	5	2	-	3	1	2	6	1
Psychology, general	1	1	2	1	-	2	3	3	3	1	1	2	5	5	7	4
Psychology, other	-	2	1	2	1	4	-	-	-	2	2	-	1	-	-	3
TOTAL, ENGINEERING	59	67	63	69	73	77	72	66	95	90	80	135	141	173	157	185
Aerospace,aero/astronaut(46)	1	1	4	-	-	2	1	1	2	3	1	6	7	5	7	9
Agricultural	-	-	1	-	-	1	1	-	2	-	-	-	-	-	3	-
Bioengineering/biomed(47)	-	4	3	3	1	-	1	5	1	4	4	2	4	6	5	4
Ceramic	-	-	-	-	1	-	-	-	1	-	-	-	2	1	-	1
Chemical	4	8	6	4	2	3	12	11	10	20	17	20	26	34	22	25
Civil	11	7	5	7	7	7	8	10	7	5	7	14	7	13	6	11
Communications(6)	-	-	-	-	-	-	-	1	1	-	1	3	4	-	2	1
Computer	5	3	5	4	2	3	1	2	1	2	2	1	4	3	5	7
Electrical/electronics(48)	-	-	-	-	-	-	-	8	22	13	16	37	37	45	44	59
Electrical(48)	11	15	14	19	13	18	15	2	1	-	-	-	-	-	-	-
Electronics(48)	1	4	-	4	1	2	5	-	-	-	-	-	-	-	-	-
Engineering mechanics	1	8	5	2	4	2	2	1	2	4	1	3	4	1	4	2
Engineering physics(49)	-	-	-	-	-	1	-	-	-	2	2	-	1	1	2	1
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	3	3
Environmental health eng(50)	1	1	2	4	1	2	1	1	1	-	1	-	1	1	2	-
Industrial	-	-	-	1	-	3	2	-	3	-	3	2	4	8	3	3
Materials science	4	3	1	1	2	6	2	6	7	7	4	7	6	15	10	19
Mechanical	10	6	7	10	21	11	7	8	16	17	9	22	18	24	23	24
Metallurgical(51)	1	1	1	-	4	6	-	1	4	4	1	8	3	2	1	1
Mining/mineral(52)	-	-	-	-	-	-	-	-	2	-	-	-	1	2	1	2
Nuclear(49)	1	3	-	4	4	4	4	2	2	3	3	2	2	2	4	5
Operations research	-	-	2	2	3	2	3	1	1	2	2	2	1	-	1	4
Petroleum(53)	1	-	-	-	1	-	1	-	-	1	-	-	3	3	3	-
Polymer(6)	-	-	-	-	-	-	-	1	2	1	-	4	3	3	1	2
Systems(54)	2	2	2	3	3	1	1	1	5	1	1	1	-	1	1	-
Engineering, general	3	-	2	-	2	1	2	1	-	-	2	-	1	1	3	1
Engineering, other	2	1	3	1	1	2	3	3	2	1	3	1	1	2	1	1
TOTAL, NON-S&E(55)	86	89	111	122	133	135	125	147	128	143	133	99	163	139	156	185
TOTAL, ALL FIELDS	334	339	390	428	458	465	452	492	512	516	530	542	614	626	640	762

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS BLACK																
TOTAL, S&E	257	286	294	298	276	282	285	283	299	278	254	234	260	284	284	328
TOTAL, SCIENCES	245	275	285	281	265	266	276	264	287	259	240	222	241	260	256	285
PHYSICAL SCIENCES	23	30	35	34	13	19	21	19	28	23	20	16	28	25	19	24
Physics/astronomy	5	10	8	6	3	6	11	8	10	4	7	5	11	5	5	6
Acoustics	-	-	-	-	-	-	-	-	2	-	-	-	1	1	-	-
Astronomy(1)	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-
Astrophysics(1)	-	-	-	1	1	1	-	-	-	-	-	1	-	-	1	-
Atomic/molecular	-	3	-	1	-	1	1	1	-	-	3	-	1	-	-	-
Elementary particle	2	3	3	-	-	1	3	1	-	1	2	1	3	-	-	1
Nuclear(5)	-	1	1	2	-	-	1	1	1	-	-	-	-	-	-	1
Optics	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Plasma	-	-	-	-	1	1	-	-	1	-	-	-	-	-	-	-
Solid state	2	3	1	1	-	-	4	3	4	1	1	1	2	2	1	3
Physics, general	-	-	2	-	-	2	1	2	-	1	1	1	2	2	3	-
Physics, other	1	-	1	1	1	-	-	-	1	1	-	-	2	-	-	1
Chemistry	18	20	27	28	10	13	10	11	18	19	13	11	17	20	14	18
Agricultural/food	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	3	4	5	2	-	-	-	-	1	1	4	4	4	2	-	4
Inorganic	3	2	5	5	2	3	1	1	1	2	1	3	2	2	1	2
Nuclear	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Organic	1	5	4	9	2	3	3	4	8	9	1	2	5	6	5	4
Pharmaceutical	-	-	-	-	-	1	-	-	-	-	-	-	-	3	-	-
Physical	6	5	7	8	2	2	3	4	6	2	3	1	1	4	2	6
Polymer	-	2	2	1	-	-	1	-	-	1	2	1	1	-	-	-
Theoretical	1	1	-	1	-	-	-	-	-	-	-	-	1	-	-	-
Chemistry, general	2	1	3	2	2	4	2	1	1	2	1	-	3	2	6	2
Chemistry, other	-	-	1	-	2	-	-	1	1	1	1	-	-	1	-	-
EARTH, ATMOS, OCEAN SCI	-	2	4	2	1	3	2	1	2	2	-	1	2	3	3	2
Atmos/meteorol sci, other	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	-
Atmospheric phys/chem	-	-	-	1	-	1	1	-	-	-	-	-	-	-	-	-
Environmental sciences(10)	-	-	2	-	-	1	-	-	-	1	-	-	1	1	-	-
Geology(12)	-	-	-	-	-	-	-	-	1	-	-	-	-	1	1	-
Geomorph/glacial geology	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Geophysics/seismology(13)	-	-	-	-	-	1	1	-	-	-	-	-	1	-	-	-
Hydrology/water res(14)	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Meteorology(16)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Oceanography	-	1	-	-	-	-	-	-	1	-	-	-	-	1	-	1
Stratigraphy, sediment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Earth sciences, general(17)	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
MATHEMATICS	5	10	12	11	11	7	6	3	3	3	5	10	2	6	4	9
Algebra	2	-	2	2	2	-	1	-	-	-	-	-	-	1	-	2
Analysis/funct analysis(18)	1	3	2	3	2	3	-	-	1	-	-	1	-	-	1	-
Applied mathematics	-	3	2	1	1	-	-	-	-	-	3	2	1	2	-	1
Computing theory	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Geometry	-	1	-	-	-	-	1	-	-	-	-	-	-	-	1	1
Logic	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-
Math probability/stat(19)	-	1	2	1	2	2	2	1	1	1	1	3	-	-	1	2
Number theory	-	-	-	1	-	-	-	-	-		-	1	-	-	1	2
Operations research	-	-	1	1	-	1	1	-	1		-	-	-	-	-	1
Topology	1	1	1	1	-	-	-	1	-		-	-	-	-	-	-
Mathematics, general	-	1	-	1	2	1	-	1	-	-	1	2	-	2	-	-
Mathematics, other	1	-	1	-	2	-	-	-	-	2	-	1	-	1	-	-
COMPUTER & INFO SCI	-	-	-	1	-	2	1	3	2	2	-	2	1	1	1	5
Computer sciences	-	-	-	1	-	2	1	2	2	2	-	1	1	-	1	2
Information sci/systems(6)	-	-	-	-	-	-	-	1	-	-	-	1	-	1	-	3

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS																
BLACK																
AGRIC & BIOL SCI	53	40	57	41	49	52	48	49	55	49	47	52	44	51	45	50
Agricultural sciences	8	10	8	7	6	9	5	12	10	5	7	7	8	6	9	6
Agronomy	3	1	1	2	1	-	2	4	1	-	-	-	1	-	3	-
Animal breeding/genetics(21)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Animal nutrition(22)	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-
Animal sci/nutrition(22)	1	1	2	-	-	2	2	-	-	-	-	-	-	-	-	-
Animal sciences, other(22)	-	-	-	-	-	-	-	3	-	-	-	1	1	-	1	-
Fish/wildlife(23)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	1	-	-	1	-	-	-	1	1
Food sciences(24)	1	2	1	1	-	1	-	-	4	1	2	1	1	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Forestry science(25)	-	-	-	-	-	1	-	1	-	2	-	-	-	-	-	-
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Horticulture science	2	-	-	2	1	-	-	2	-	-	1	1	-	1	1	1
Plant breeding/genetics(26)	-	-	-	-	-	-	-	1	-	-	-	1	1	1	-	-
Plant pathology(26)	-	-	-	-	-	-	-	-	2	1	3	1	1	1	-	-
Phytopathology(26)	-	2	-	1	2	1	-	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
Soil sciences(28)	1	3	1	-	-	3	-	-	-	-	-	2	1	-	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2
Agriculture, general	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-
Agriculture, other	-	1	2	1	2	1	1	-	-	1	-	-	-	1	-	-
Biological sciences	45	30	49	34	43	43	43	37	45	44	40	45	36	45	36	44
Anatomy	-	-	2	2	2	1	-	-	3	-	-	-	-	2	1	1
Biochemistry	3	5	9	4	7	8	4	5	4	4	5	6	7	4	10	6
Biometrics/biostat	-	-	-	2	-	-	2	3	1	2	-	1	1	1	-	1
Biophysics	-	1	-	-	2	-	1	-	-	-	-	-	1	3	-	-
Botany, other(29)	-	-	-	-	-	-	-	-	1	1	-	2	-	-	-	1
Botany(29)	1	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	1	5	1	4	2	2	2	2	1
Cytology(30)	1	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-
Devel bio/embryology(31)	-	-	-	2	-	3	-	-	1	-	-	-	-	-	-	-
Ecology	2	2	-	-	2	-	-	-	-	-	-	2	-	1	-	1
Endocrinology(6)	-	-	-	-	-	-	-	-	2	-	-	-	2	-	1	1
Entomology	1	1	-	-	1	-	-	-	-	1	2	1	1	3	1	-
Human/animal genetics(32)	-	-	-	-	-	-	-	1	1	2	-	1	1	1	-	1
Plant genetics(32)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Genetics(32)	6	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	3	3	1	4	-	-	3	2	4
Plant pathology(33)	-	-	-	-	-	-	-	1	-	2	-	-	-	-	-	-
Pathology(33)	-	-	2	-	1	-	3	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	3	1	4	1	3	3	1	-	3	5	4	1	1	2	3	4
Human/animal physiol(34)	-	-	-	-	-	-	-	3	3	4	2	1	4	1	5	2
Animal physiology(34)	5	-	4	5	1	2	4	-	-	-	-	-	-	-	-	-
Plant physiology(34)	-	1	-	-	1	-	-	1	1	-	2	1	-	-	-	-
Immunology	4	-	1	2	2	2	1	1	1	2	-	-	-	2	2	1
Microbiology(35)	-	-	-	-	-	-	-	5	4	5	4	4	4	5	5	5
Bacteriology(35)	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-
Microbiology/bacteriol(35)	3	5	11	5	6	5	5	-	-	-	-	-	-	-	-	-
Molecular biology	4	1	2	1	5	3	5	2	2	1	1	3	2	2	1	4
Neurosciences	-	-	-	-	-	-	1	2	1	-	-	2	1	2	-	1
Nutritional sciences(36)	1	2	2	5	2	6	5	2	3	3	4	4	2	4	-	2
Parasitology	-	-	-	2	-	-	1	-	2	1	-	1	2	-	-	-
Toxicology(6)	-	-	-	-	-	-	-	1	1	1	-	2	1	1	1	2
Zoology, other(37)	-	-	-	-	-	-	-	3	1	5	1	4	4	1	-	3
Zoology(37)	6	1	4	-	2	3	5	-	-	-	-	-	-	-	-	-
Biological sci, general	2	5	2	-	4	4	2	2	1	-	4	4	-	1	2	2
Biological sci, other	3	2	1	-	1	2	1	1	-	1	2	3	-	4	-	1
SOCIAL SCIENCES	78	101	81	80	76	72	86	79	82	79	66	53	65	78	73	82
Agricultural economics	1	1	4	1	4	3	2	-	1	4	-	1	2	1	3	-
Anthropology	12	1	4	6	10	7	7	7	10	9	3	7	5	7	3	5
Area studies	2	-	2	1	2	-	-	1	1	-	2	1	1	-	1	1
Criminology(38)	-	-	-	-	-	-	4	2	2	2	2	1	8	4	2	3
Econometrics	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Economics	7	12	4	7	5	10	8	13	11	5	7	7	11	7	12	10
Geography	3	3	2	2	5	2	2	3	3	-	-	2	-	3	-	1
History of science(39)	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-
International relations	1	3	2	-	1	2	3	3	1	1	-	-	-	4	3	3
Linguistics	2	4	2	3	7	2	3	4	2	2	3	2	1	3	1	3
Pol sci/government(40)	-	-	-	-	-	-	-	16	12	17	15	10	7	12	15	12
Political science(40)	12	28	23	23	11	18	20	-	-	-	-	-	-	-	-	-
Pol sci, public admin(40)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	2	2	2	7	4	4	3	7	6
Sociology	29	30	26	28	19	21	29	22	26	24	20	10	14	26	20	19
Urban studies(41)	3	9	4	5	5	2	5	3	3	6	1	4	5	3	1	5
Social sciences, general	-	6	4	1	1	1	1	1	-	1	-	1	1	1	-	2
Social sciences, other	5	3	4	3	6	4	2	2	8	6	5	1	6	4	4	12

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS BLACK																
PSYCHOLOGY	86	92	96	112	115	111	112	110	115	101	102	88	99	96	111	113
Clinical	29	39	39	39	43	54	44	46	45	50	50	43	44	45	45	45
Cognitive(6)	-	-	-	-	-	-	-	-	1	-	1	1	1	1	1	2
Comparative(42)	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Counseling(43)	10	7	9	13	9	17	17	14	24	15	14	16	17	14	27	18
Developmental(44)	5	1	4	6	11	2	9	10	3	4	-	3	6	3	7	9
Educational	5	2	6	7	7	2	3	2	5	5	-	1	7	3	4	3
Experimental(42)	3	4	4	3	2	3	3	2	3	1	1	-	-	4	2	3
Indust/organizational(45)	1	1	1	-	4	4	2	3	5	1	5	2	1	3	3	3
Physiological(42)	2	1	4	-	5	1	1	1	1	1	-	-	-	2	-	3
Quantitative(6)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Personality	4	4	1	3	-	3	1	1	1	1	1	2	2	1	1	-
Psychometrics	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
School	5	3	4	4	5	2	3	1	6	3	4	2	3	4	2	3
Social	8	8	9	14	12	9	10	15	9	11	11	7	3	5	3	8
Psychology, general	7	6	6	12	9	8	13	11	8	4	12	9	15	6	12	12
Psychology, other	6	15	9	9	8	6	6	4	4	4	3	2	-	5	4	4
TOTAL, ENGINEERING	12	11	9	17	11	16	9	19	12	19	14	12	19	24	28	43
Aerospace,aero/astronaut(46)	1	-	-	1	1	-	1	1	-	1	-	1	-	1	3	1
Agricultural	-	-	-	1	1	-	-	-	-	1	-	-	-	-	2	-
Bioengineering/biomed(47)	-	-	1	1	-	1	-	-	1	-	-	1	1	2	2	1
Chemical	2	-	1	1	-	2	-	1	2	2	1	3	4	1	4	4
Civil	1	-	1	2	-	2	-	3	-	2	2	1	-	2	-	5
Computer	-	1	1	-	-	-	-	-	1	-	-	-	1	-	1	2
Electrical/electronics(48)	-	-	-	-	-	-	-	2	1	6	2	-	6	8	6	14
Electrical(48)	4	4	1	6	5	6	1	-	-	-	-	-	-	-	-	-
Electronics(48)	-	1	-	3	-	1	-	-	-	-	-	-	-	-	-	-
Engineering mechanics	-	-	-	-	-	1	1	-	-	-	1	-	-	1	-	-
Engineering physics(49)	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2	1
Environmental health eng(50)	-	1	1	-	-	1	-	1	-	-	-	-	-	-	-	3
Industrial	-	1	2	-	-	-	-	1	1	1	-	-	3	2	-	1
Materials science	1	-	-	-	1	-	1	1	-	-	1	1	1	-	-	1
Mechanical	1	1	-	1	2	1	2	4	2	1	2	2	-	4	5	3
Metallurgical(51)	-	-	-	-	-	-	-	3	-	1	-	1	-	-	-	-
Mining/mineral(52)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Nuclear(49)	1	1	-	-	-	1	1	-	1	1	3	-	2	-	-	-
Operations research	1	-	-	-	1	-	1	-	-	-	-	-	1	-	1	1
Petroleum(53)	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-
Polymer(6)	-	-	-	-	-	-	-	1	-	2	-	-	-	-	1	-
Systems(54)	-	-	-	1	-	-	-	-	1	1	-	-	-	-	-	-
Engineering, general	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	1
Engineering, other	-	-	-	-	-	-	1	-	2	-	2	-	-	1	-	4
TOTAL, NON-S&E(55)	838	830	739	758	756	731	762	639	654	634	569	534	554	537	613	605
TOTAL, ALL FIELDS	1,095	1,116	1,033	1,056	1,032	1,013	1,047	922	953	912	823	768	814	821	897	933

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS																
HISPANIC																
TOTAL, S&E	121	162	173	180	171	198	226	237	254	244	276	305	327	310	383	395
TOTAL, SCIENCES	106	144	154	165	153	186	203	219	232	228	251	281	284	276	344	348
PHYSICAL SCIENCES	14	28	17	25	20	26	21	24	38	26	35	48	57	52	63	52
Physics/astronomy	6	9	4	12	9	6	6	5	12	12	11	8	14	12	13	15
Acoustics	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Astronomy(1)	-	-	-	-	2	-	-	-	1	-	1	-	2	-	1	1
Astrophysics(1)	-	-	1	1	1	2	-	-	-	-	-	-	-	1	1	-
Atomic/molecular	1	1	1	1	-	-	2	-	2	-	1	3	-	-	-	1
Elementary particle	-	2	1	2	1	2	-	1	2	1	2	-	1	2	2	6
Fluids	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-
Nuclear(5)	1	1	-	-	1	-	-	-	1	2	-	1	1	-	2	-
Optics	1	1	-	-	-	-	-	1	-	-	4	-	1	-	-	4
Plasma	-	-	-	-	-	-	1	1	1	1	-	-	1	1	1	-
Solid state	2	1	1	3	2	2	3	-	4	4	-	2	6	5	2	3
Physics, general	1	1	-	2	1	-	-	1	-	1	2	1	-	2	1	-
Physics, other	-	1	-	2	1	-	-	1	1	2	1	1	2	1	2	-
Chemistry	8	19	13	13	11	20	15	19	26	14	24	40	43	40	50	37
Analytical	2	1	3	2	4	1	-	4	3	3	4	8	11	2	10	8
Inorganic	1	2	1	-	1	3	2	-	2	3	4	6	3	7	5	3
Nuclear	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Organic	1	4	5	5	4	7	5	9	10	5	8	13	9	9	10	14
Pharmaceutical	1	1	-	-	-	1	-	-	1	-	-	2	2	1	-	2
Physical	3	6	1	5	2	4	3	4	4	3	5	5	12	11	9	4
Polymer	-	1	1	-	-	-	1	1	-	-	-	-	-	2	2	-
Theoretical	-	-	1	1	-	1	-	-	-	-	-	1	-	-	2	1
Chemistry, general	-	4	1	-	-	2	3	-	5	-	3	4	5	3	12	5
Chemistry, other	-	-	-	-	-	-	1	1	1	-	-	1	1	5	-	-
EARTH, ATMOS, OCEAN SCI	-	11	4	5	3	6	6	9	1	4	5	3	8	6	11	12
Applied geology(9)	-	1	-	-	-	-	1	-	-	1	-	-	-	-	-	-
Atmos/meteorol sci, other	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atmospheric dynamics	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Atmospheric phys/chem	-	-	-	1	-	1	-	-	-	-	-	-	1	1	2	-
Environmental sciences(10)	-	1	-	1	-	-	1	1	-	1	-	-	1	-	1	1
Geochemistry(11)	-	-	-	1	-	1	1	1	-	-	-	-	1	-	1	-
Geology(12)	-	-	-	-	-	-	-	-	-	1	-	-	1	-	2	2
Structural geology(12)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geophysics/seismology(13)	-	2	1	-	1	1	1	-	-	1	2	1	1	2	-	2
Hydrology/water res(14)	-	-	-	1	-	-	-	2	-	-	-	-	1	-	-	-
Marine sciences(6)	-	-	-	-	-	-	-	1	-	-	-	-	1	-	1	-
Marine sciences, other(15)	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-
Meteorology(16)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Minerology, petrology(11)	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Oceanography	-	1	-	1	-	1	-	3	1	-	2	1	-	1	3	1
Paleontology	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	1
Stratigraphy, sediment	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2
Earth sciences, general(17)	-	1	2	-	1	1	-	-	-	-	-	-	-	-	-	-
Earth sciences, other(17)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
MATHEMATICS	9	7	5	6	3	4	6	4	11	7	9	9	3	8	7	6
Algebra	1	2	-	1	-	-	3	1	-	-	1	1	-	3	-	-
Analysis/funct analysis(18)	3	-	-	-	-	-	-	-	2	1	-	1	-	1	2	-
Applied mathematics	1	2	-	-	1	1	1	1	-	2	4	2	1	-	2	1
Computing theory	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Geometry	-	-	-	-	-	1	1	1	-	1	-	-	-	2	-	-
Math probability/stat(19)	1	1	1	4	1	-	-	-	5	1	2	1	1	1	1	1
Number theory	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Operations research	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-
Topology	-	1	1	-	-	-	-	-	2	1	-	2	-	-	-	1
Mathematics, general	1	-	-	1	1	1	1	1	2	1	2	1	1	1	-	1
Mathematics, other	-	-	2	-	-	1	-	-	-	-	-	1	-	-	1	-
COMPUTER & INFO SCI	-	-	-	1	1	-	1	-	3	5	4	4	2	4	4	10
Computer sciences	-	-	-	1	1	-	1	-	3	2	3	4	2	3	3	10
Information sci/systems(6)	-	-	-	-	-	-	-	-	-	3	1	-	-	1	1	-

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS																
HISPANIC																
AGRIC & BIOL SCI	26	25	34	38	30	42	50	41	43	59	59	64	74	71	86	85
Agricultural sciences	3	3	7	4	4	8	6	2	4	10	7	12	13	12	14	7
Agronomy	-	1	-	-	-	1	1	1	-	-	1	1	2	3	-	-
Animal breeding/genetics(21)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-
Animal nutrition(22)	-	-	-	-	-	-	-	-	-	2	-	2	3	-	-	-
Animal sci/nutrition(22)	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Animal sciences, other(22)	-	-	-	-	-	-	-	-	2	1	2	2	1	1	2	2
Fish/wildlife(23)	-	-	1	1	-	1	-	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Food sciences(24)	1	-	2	1	1	1	2	-	-	-	2	2	-	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	4	1
Forestry science(25)	-	-	1	1	-	1	1	-	-	-	1	1	-	-	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Horticulture science	1	1	-	-	-	2	1	-	-	1	1	-	-	1	1	1
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	-	2	-	-	2	-	-	-
Plant pathology(26)	-	-	-	-	-	-	-	-	1	1	-	-	-	2	2	-
Phytopathology(26)	1	-	2	1	1	-	-	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	1	-	-	-	1	-	1	-	-
Soil sciences(28)	-	1	-	-	1	-	-	-	1	2	-	-	-	-	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	2	1	1	-
Agriculture, general	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Agriculture, other	-	-	-	-	-	-	1	-	-	1	-	2	-	-	2	-
Biological sciences	23	22	27	34	26	34	44	39	39	49	52	52	61	59	72	78
Anatomy	-	2	-	3	-	2	1	1	2	1	-	2	1	1	2	3
Biochemistry	5	3	7	7	5	6	5	6	3	5	11	14	12	9	4	9
Biometrics/biostat	1	1	-	-	-	-	-	-	-	1	-	-	-	1	-	1
Biophysics	-	1	-	2	-	-	1	2	-	-	2	2	-	-	1	-
Botany, other(29)	-	-	-	-	-	-	-	2	2	2	1	-	2	1	2	1
Botany(29)	3	3	1	2	2	1	2	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	1	2	2	3	1	-	2	3	3
Cytology(30)	-	1	-	1	1	1	-	-	-	-	-	-	-	-	-	-
Devel bio/embryology(31)	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	3
Ecology	1	-	-	2	2	3	1	2	1	3	2	1	-	2	1	5
Endocrinology(6)	-	-	-	-	-	-	-	-	1	1	1	-	2	-	1	1
Entomology	1	2	1	2	3	1	3	-	1	4	3	-	4	1	6	2
Human/animal genetics(32)	-	-	-	-	-	-	-	2	-	1	1	-	-	1	8	1
Plant genetics(32)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Genetics(32)	-	3	-	-	1	2	2	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	1	1	2	1	3	1	1	1	1
Plant pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Pathology(33)	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	-	-	-	1	1	1	2	2	5	1	5	4	6	2	2	3
Human/animal physiol(34)	-	-	-	-	-	-	-	1	3	2	2	4	3	5	6	5
Animal physiology(34)	2	3	4	2	3	3	3	-	-	-	-	-	-	-	-	-
Plant physiology(34)	-	-	2	1	-	1	-	-	-	1	2	-	-	3	-	1
Immunology	-	-	2	1	1	2	4	3	1	1	3	1	3	4	6	4
Microbiology(35)	-	-	-	-	-	-	-	5	4	4	6	3	2	4	8	10
Microbiology/bacteriol(35)	4	2	4	1	3	5	4	-	-	-	-	-	-	-	-	-
Molecular biology	-	-	1	2	1	2	5	2	1	3	4	1	5	7	5	5
Neurosciences	-	-	-	-	-	-	1	3	1	2	1	2	3	5	3	3
Nutritional sciences(36)	1	-	3	-	1	-	2	1	-	2	3	4	2	2	2	3
Parasitology	-	-	1	1	-	1	-	-	1	-	-	-	1	-	-	-
Toxicology(6)	-	-	-	-	-	-	-	-	-	1	-	3	1	-	-	2
Zoology, other(37)	-	-	-	-	-	-	-	2	1	1	1	3	3	3	3	3
Zoology(37)	2	-	1	1	1	1	5	-	-	-	-	-	-	-	-	-
Biological sci, general	3	-	-	2	1	1	2	1	5	4	-	2	5	4	4	6
Biological sci, other	-	-	-	1	-	1	1	2	3	4	-	2	4	1	4	3
SOCIAL SCIENCES	30	39	50	48	45	49	50	57	55	63	58	61	51	48	75	74
Agricultural economics	2	2	3	1	1	2	-	1	1	3	1	2	-	2	-	1
Anthropology	8	6	5	4	2	4	6	7	4	14	10	12	11	7	11	8
Area studies	1	-	2	1	-	-	1	1	1	-	-	-	-	-	2	-
Criminology(38)	-	-	-	-	-	1	-	3	-	-	-	3	-	-	-	1
Demography(6)	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-
Econometrics	-	-	-	-	1	-	1	-	1	-	-	-	-	-	-	1
Economics	1	2	4	8	9	9	7	7	10	11	5	9	8	10	12	8
Geography	-	3	2	1	1	2	1	2	2	3	1	2	1	-	-	2
History of science(39)	-	-	-	-	-	-	-	-	-	-	2	-	-	1	-	-
International relations	2	2	2	1	-	1	1	3	-	3	2	3	-	2	1	3
Linguistics	-	4	1	3	2	3	4	3	7	3	5	5	6	2	4	6
Pol sci/government(40)	-	-	-	-	-	-	-	11	10	6	9	6	6	4	15	10
Political science(40)	7	5	8	12	10	7	7	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	2	1	-	1	6	1	-	2	5
Sociology	6	14	12	12	13	15	16	10	16	15	12	9	13	16	20	21
Statistics	1	-	-	-	1	-	-	-	-	-	1	1	-	-	-	-
Urban studies(41)	1	-	4	1	2	3	-	3	-	2	2	-	-	-	3	2
Social sciences, general	-	-	1	-	1	1	-	-	-	-	1	1	4	1	-	1
Social sciences, other	1	1	6	4	2	1	6	4	2	2	6	2	1	2	5	5

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS																
HISPANIC																
PSYCHOLOGY	27	34	44	42	51	59	69	84	81	64	81	92	89	87	98	109
Clinical	8	17	18	22	23	27	27	42	35	22	42	37	39	49	44	48
Cognitive(6)	-	-	-	-	-	-	-	3	2	1	-	1	-	-	2	1
Comparative(42)	1	-	-	1	-	1	1	-	-	-	-	-	1	-	-	1
Counseling(43)	4	4	3	4	8	6	9	11	12	11	7	20	9	10	8	21
Developmental(44)	2	1	1	-	3	1	5	5	7	5	5	5	3	1	7	7
Educational	1	3	3	1	2	3	5	1	2	3	2	2	3	2	1	5
Experimental(42)	1	-	2	-	5	3	4	4	3	-	3	1	7	1	6	4
Indust/organizational(45)	-	2	-	1	1	1	-	-	1	1	2	3	3	1	3	4
Physiological(42)	5	1	4	1	1	1	2	-	4	1	2	4	4	1	2	-
Quantitative(6)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Personality	-	-	2	2	1	-	-	-	-	-	-	1	-	1	1	-
Psychometrics	1	-	1	-	-	-	-	-	-	-	-	-	3	-	-	-
School	-	2	2	-	-	3	3	1	2	4	1	3	1	7	-	1
Social	2	-	3	3	-	4	5	8	1	3	4	6	6	-	5	3
Psychology, general	1	1	3	3	4	5	6	8	9	8	6	5	7	11	14	11
Psychology, other	1	3	2	4	3	4	2	1	3	5	6	4	3	3	5	3
TOTAL, ENGINEERING	15	18	19	15	18	12	23	18	22	16	25	24	43	34	39	47
Aerospace,aero/astronaut(46)	-	2	1	-	-	-	-	-	-	-	1	1	1	1	2	-
Agricultural	-	-	-	1	1	-	-	-	-	2	-	-	3	1	-	1
Bioengineering/biomed(47)	-	1	1	1	-	-	-	1	2	-	2	2	3	3	2	1
Ceramic	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-
Chemical	3	4	-	3	4	1	4	4	2	2	4	7	3	4	6	10
Civil	-	2	4	1	5	4	1	4	1	6	3	1	10	4	5	5
Communications(6)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-
Computer	-	1	1	-	-	-	-	-	-	-	-	-	-	-	1	1
Electrical/electronics(48)	-	-	-	-	-	-	-	2	5	1	7	4	9	10	7	10
Electrical(48)	3	4	2	3	3	-	5	1	1	-	-	-	-	-	-	-
Electronics(48)	1	-	1	1	2	2	1	-	-	-	-	-	-	-	-	-
Engineering mechanics	2	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-
Engineering physics(49)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Engineering science(6)	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-
Environmental health eng(50)	3	-	2	1	-	3	-	1	2	-	-	-	-	1	1	-
Industrial	-	1	-	-	-	-	2	-	1	-	-	1	2	-	4	2
Materials science	-	-	-	1	-	-	2	1	1	-	1	2	4	-	1	5
Mechanical	1	2	2	-	-	1	1	-	4	3	2	4	5	3	3	8
Metallurgical(51)	-	-	2	-	1	-	-	-	-	-	-	-	-	-	1	-
Mining/mineral(52)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-
Nuclear(49)	-	-	1	2	-	-	1	2	1	-	-	1	1	2	2	2
Ocean(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Operations research	-	-	1	-	1	-	1	1	-	1	-	1	-	1	-	1
Petroleum(53)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Systems(54)	1	-	-	-	-	1	-	-	1	-	2	-	-	-	-	-
Engineering, general	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-
Engineering, other	1	-	-	-	-	-	4	-	-	-	2	-	1	1	-	1
TOTAL, NON-S&E(55)	219	261	300	282	241	266	309	302	282	317	295	313	270	272	335	313
TOTAL, ALL FIELDS	340	423	473	462	412	464	535	539	536	561	571	618	597	582	718	708

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS																
WHITE																
TOTAL, S&E	12,853	12,288	11,680	11,835	11,844	12,090	12,034	12,116	11,921	11,660	11,616	11,482	11,876	11,915	12,556	12,353
TOTAL, SCIENCES	11,432	10,983	10,606	10,749	10,776	11,081	11,019	11,100	10,859	10,563	10,387	10,151	10,346	10,332	10,870	10,694
PHYSICAL SCIENCES	1,980	1,833	1,699	1,754	1,632	1,724	1,827	1,879	1,854	1,850	1,817	1,888	1,881	1,766	1,920	1,844
Physics/astronomy	817	717	686	676	609	622	636	631	665	631	635	645	646	599	671	671
Acoustics	9	6	11	10	18	9	7	11	12	7	11	13	11	11	9	7
Astronomy(1)	62	52	54	42	39	38	43	43	32	33	38	32	39	31	35	34
Astrophysics(1)	56	42	55	42	50	48	38	51	45	43	40	36	51	42	51	47
Atomic/molecular	84	74	59	54	44	45	61	40	53	39	40	43	51	40	55	40
Electron(2)	-	-	-	-	-	-	-	1	-	2	1	6	1	1	-	-
Electromagnetism(3)	7	6	8	4	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	85	88	86	76	74	77	73	82	80	90	83	84	94	78	82	99
Fluids	15	11	8	9	8	8	7	11	7	9	2	8	9	9	11	10
Mechanics(4)	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(5)	65	59	48	68	48	39	36	57	49	53	48	40	47	49	40	37
Optics	39	23	24	33	28	33	33	24	34	34	37	35	37	38	41	47
Plasma	55	49	47	38	44	46	47	46	52	35	40	41	41	31	22	31
Polymer(6)	-	-	-	-	-	-	-	5	4	5	6	9	8	2	4	6
Solid state	185	157	159	147	126	161	156	137	161	141	150	152	127	132	140	148
Thermal(8)	2	3	6	5	5	3	-	-	-	-	-	-	-	-	-	-
Physics, general	67	70	60	77	58	49	63	56	69	71	61	80	59	69	106	80
Physics, other	83	77	61	71	67	66	72	67	67	69	78	66	71	66	75	85
Chemistry	1,163	1,116	1,013	1,078	1,023	1,102	1,191	1,248	1,189	1,219	1,182	1,243	1,235	1,167	1,249	1,173
Agricultural/food	7	5	3	6	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	124	142	134	163	139	187	159	214	173	229	190	228	215	214	207	197
Inorganic	183	157	148	153	145	144	176	176	187	185	192	173	182	172	175	164
Nuclear	18	19	9	8	12	9	13	9	8	5	13	11	4	6	9	13
Organic	372	370	326	325	327	368	384	368	371	334	350	336	352	331	309	302
Pharmaceutical	31	30	25	27	24	35	34	46	35	36	34	39	41	41	25	49
Physical	254	238	208	236	206	202	250	228	236	221	201	197	196	186	196	189
Polymer	24	33	26	37	24	24	24	35	32	38	38	50	34	37	38	51
Theoretical	40	26	35	37	38	24	24	34	28	40	26	34	36	27	35	31
Chemistry, general	64	54	53	53	60	58	72	84	65	75	79	116	112	88	216	131
Chemistry, other	46	42	46	33	48	51	55	54	54	56	59	59	63	65	39	46
EARTH, ATMOS, OCEAN SCI	481	510	460	487	476	443	498	443	449	415	398	395	480	495	506	546
Applied geology(9)	15	15	11	15	21	15	15	5	6	5	3	2	6	5	5	1
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	11	4	4	5	6	8	8	11	10
Atmos/meteorol sci, other	13	27	24	26	33	18	19	17	8	6	5	5	8	10	1	8
Atmospheric dynamics	9	25	15	14	12	21	15	9	13	13	9	8	15	8	10	8
Atmospheric phys/chem	12	14	17	12	15	12	15	16	7	14	14	15	9	8	6	10
Environmental sciences(10)	52	41	32	40	30	42	42	34	35	29	27	22	43	51	37	23
Geochemistry(11)	37	44	42	46	42	43	39	41	36	36	23	18	30	27	38	49
Geology(12)	-	-	-	-	-	-	-	75	94	73	91	78	102	122	126	138
Structural geology(12)	20	16	25	22	18	27	23	-	-	-	-	-	-	-	-	-
Geomorph/glacial geology	27	21	20	14	12	12	18	8	8	12	9	15	8	8	11	17
Geophysics/seismology(13)	26	49	38	58	43	49	51	49	42	54	51	35	44	50	54	64
Geophysics(13)	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	11	13	15	10	20	12	11	9	12	7	9	11	13	14	9	12
Marine sciences(6)	-	-	-	-	-	-	-	14	16	20	18	26	21	19	27	15
Marine sciences, other(15)	-	8	26	28	21	27	32	-	-	-	-	-	-	-	-	-
Meteorology(16)	14	-	-	-	-	-	-	11	20	13	13	8	18	18	12	17
Minerology, petrology(11)	42	50	30	28	42	26	36	19	26	23	14	20	15	29	23	29
Oceanography	68	87	77	72	71	56	77	62	56	48	50	44	49	49	38	56
Paleontology	36	26	29	33	20	18	22	14	29	19	12	16	22	13	19	18
Stratigraphy, sediment	46	31	24	25	36	36	43	19	12	17	12	17	24	17	22	23
Geological sciences, gen(17)	-	-	-	-	-	-	-	6	5	8	6	12	4	9	18	16
Geological sciences, oth(17)	-	-	-	-	-	-	-	15	17	8	11	23	23	19	21	21
Earth sciences, general(17)	18	28	23	27	26	19	22	-	-	-	-	-	-	-	-	-
Earth sciences, other(17)	17	15	12	17	14	10	18	-	-	-	-	-	-	-	-	-
Physical sciences, other(6)	-	-	-	-	-	-	-	9	3	6	16	14	18	11	18	11
MATHEMATICS	682	628	547	486	469	429	419	374	366	337	326	295	308	351	346	394
Algebra	88	68	68	66	59	36	41	34	36	29	17	26	30	21	20	41
Analysis/funct analysis(18)	106	104	79	67	64	65	58	42	36	49	39	34	42	42	38	53
Applied mathematics	68	74	71	64	63	70	63	81	68	46	63	63	60	68	70	77
Computing theory	115	76	39	21	10	10	5	8	5	12	4	7	8	9	7	12
Geometry	13	16	14	20	26	22	19	22	16	18	19	11	18	23	17	21
Logic	25	12	16	17	17	17	13	16	13	19	15	8	9	5	11	15
Math probability/stat(19)	98	106	107	100	80	90	94	76	89	67	71	53	57	77	51	62
Number theory	20	28	16	13	19	19	21	9	18	10	14	9	8	17	14	16
Operations research	25	22	28	24	21	15	18	9	13	13	10	5	16	10	11	8
Topology	50	50	40	46	46	39	37	30	26	23	20	26	12	20	33	31
Mathematics, general	41	39	41	27	35	28	29	22	29	26	33	31	30	31	38	29
Mathematics, other	33	33	28	21	29	18	21	25	17	25	21	22	18	28	36	29
COMPUTER & INFO SCI	-	21	74	148	138	154	134	161	155	170	176	215	253	296	325	323
Computer sciences	-	21	74	148	138	154	134	151	135	136	155	184	217	240	273	283
Information sci/systems(6)	-	-	-	-	-	-	-	10	20	34	21	31	36	56	52	40

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS																
WHITE																
AGRIC & BIOL SCI	3,212	3,141	3,132	3,283	3,450	3,515	3,632	3,560	3,590	3,515	3,383	3,237	3,371	3,393	3,493	3,431
Agricultural sciences	473	451	474	497	525	543	611	600	593	646	543	541	493	561	582	516
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Agronomy	69	62	72	66	75	104	91	74	66	89	82	80	61	73	71	52
Animal breeding/genetics(21)	14	16	17	20	18	13	19	16	17	17	13	11	13	11	15	11
Animal nutrition(22)	-	-	-	-	-	-	-	41	46	50	45	59	33	48	40	36
Animal sci/nutrition(22)	80	65	54	63	75	76	89	-	-	-	-	-	-	-	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	8	8	11	8
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	4	4	8	5
Animal sciences, other(22)	-	-	-	-	-	-	-	52	52	52	52	46	48	55	41	52
Fish/wildlife(23)	46	57	48	57	57	58	56	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	21	34	33	19	22	22	17	26	23
Wildlife management(23)	-	-	-	-	-	-	-	23	26	32	17	19	2	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	26	41	38	43
Food sciences(24)	49	47	51	55	45	38	53	60	50	61	44	45	2	1	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	2	1	2	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	35	57	41	45
Forestry science(25)	56	46	53	58	60	63	55	60	78	75	53	66	14	-	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	17	16	19	9
Forest engineering(25)	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	1
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	10	16	8	11
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	4	5	5	6
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	3	5	8	10
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	13	25	24	24
Horticulture science	26	33	35	44	40	38	61	39	48	41	35	40	28	45	55	38
Plant breeding/genetics(26)	-	-	-	-	-	-	-	50	53	55	41	46	45	38	51	35
Plant pathology(26)	-	-	-	-	-	-	-	64	28	57	46	43	24	27	32	34
Phytopathology(26)	50	53	53	56	71	65	85	-	-	-	-	-	-	-	-	-
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	-	-	-	1	3	3	1
Plant sciences, other(26)	-	-	-	-	-	-	-	9	11	11	15	6	11	6	13	9
Soil sciences(28)	30	27	53	27	36	38	48	47	47	47	53	34	10	-	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	22	17	16	15
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	19	33	42	36
Agriculture, general	4	-	1	1	2	1	1	3	1	1	2	1	-	2	-	-
Agriculture, other	49	45	37	50	46	49	53	41	36	25	26	23	14	6	13	12
Biological sciences	2,739	2,690	2,658	2,786	2,925	2,972	3,021	2,960	2,997	2,869	2,840	2,696	2,878	2,832	2,911	2,915
Anatomy	114	92	123	123	123	136	130	87	83	109	70	70	69	61	49	54
Biochemistry	453	465	438	448	510	501	509	510	463	431	412	384	401	439	449	454
Biometrics/biostat	30	36	30	32	31	36	46	30	30	24	20	22	27	26	28	26
Biophysics	87	93	76	90	71	76	62	61	64	54	49	52	62	52	47	44
Botany, other(29)	-	-	-	-	-	-	-	100	100	88	94	78	83	84	70	75
Botany(29)	146	133	112	110	114	115	117	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	97	97	79	98	107	89	102	102	99
Cytology(30)	35	31	28	28	31	38	33	-	-	-	-	-	-	-	-	-
Devel bio/embryology(31)	9	18	14	8	14	15	8	11	10	14	9	3	5	9	19	29
Ecology	124	141	156	148	142	169	154	157	181	170	150	127	122	123	134	149
Endocrinology(6)	-	-	-	-	-	-	-	21	20	12	10	14	13	12	16	21
Entomology	108	105	107	111	109	94	113	101	102	128	122	83	96	101	97	87
Human/animal genetics(32)	-	-	-	-	-	-	-	82	64	77	75	85	82	75	114	106
Plant genetics(32)	-	-	-	-	-	-	-	10	17	20	16	22	13	9	20	13
Genetics(32)	91	110	97	109	116	127	143	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	63	65	88	65	84	81	73	63	78
Plant pathology(33)	-	-	-	-	-	-	-	22	21	24	18	20	22	18	19	22
Pathology(33)	70	68	76	65	79	77	76	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	158	160	161	175	201	226	220	183	181	177	183	166	190	173	169	169
Human/animal physiol(34)	-	-	-	-	-	-	-	202	189	187	186	179	163	199	169	188
Animal physiology(34)	242	257	243	261	278	277	250	-	-	-	-	-	-	-	-	-
Plant physiology(34)	44	25	28	38	38	48	43	48	52	43	40	39	44	32	37	32
Hydrobiology	13	14	3	8	-	-	-	-	-	-	-	-	-	-	-	-
Immunology	66	80	73	107	92	123	116	121	106	93	111	101	139	115	112	119
Microbiology(35)	-	-	-	-	-	-	-	244	268	215	235	209	248	229	212	235
Bacteriology(35)	-	-	-	-	-	-	-	7	9	13	7	10	5	9	12	7
Microbiology/bacteriol(35)	278	244	251	266	280	267	238	-	-	-	-	-	-	-	-	-
Molecular biology	121	101	130	105	137	152	174	182	234	218	230	210	256	277	294	292
Neurosciences	-	-	-	-	-	-	102	109	119	131	100	120	124	136	142	163
Nutritional sciences(36)	52	43	49	70	65	59	77	75	73	72	79	91	72	73	72	57
Parasitology	17	13	9	11	16	12	9	7	23	14	19	12	11	12	8	10
Toxicology(6)	-	-	-	-	-	-	.	51	85	83	93	93	83	92	68	63
Zoology, other(37)	-	-	-	-	-	-	-	167	135	115	125	106	128	102	101	101
Zoology(37)	222	217	201	206	197	167	164	-	-	-	-	-	-	-	-	-
Biological sci, general	123	128	123	132	151	136	136	125	118	126	131	134	151	127	198	148
Biological sci, other	136	116	130	135	130	121	101	87	88	64	93	75	99	72	90	74

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS																
WHITE																
SOCIAL SCIENCES	2,566	2,337	2,202	2,069	2,078	1,997	1,902	1,943	1,793	1,724	1,778	1,645	1,649	1,608	1,691	1,653
Agricultural economics	85	74	79	60	85	79	87	74	66	72	73	62	73	74	63	63
Anthropology	331	306	301	280	293	281	262	299	252	253	286	247	234	227	248	258
Area studies	17	14	14	20	16	10	13	12	11	9	7	10	10	8	13	6
Criminology(38)	-	-	-	-	26	31	30	36	29	26	21	18	22	23	35	17
Demography(6)	-	-	-	-	-	-	-	13	8	9	7	10	6	12	7	11
Econometrics	16	12	12	13	12	7	11	9	11	14	9	9	6	6	8	7
Economics	548	506	453	444	430	453	385	452	389	382	422	368	376	381	347	311
Geography	117	102	106	93	86	70	64	76	71	72	70	68	80	57	82	64
History of science(39)	22	27	21	19	19	19	24	12	19	16	14	21	21	15	18	16
International relations	79	66	53	55	42	54	34	43	45	44	38	44	39	44	48	49
Linguistics	102	112	99	83	105	104	104	88	78	90	91	94	70	82	77	102
Pol sci/government(40)	-	-	-	-	-	-	-	259	257	230	239	231	205	234	278	248
Political science(40)	470	434	437	358	374	295	302	-	-	-	-	-	-	-	-	-
Pol sci, public admin(40)	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	48	39	54	55	51	48	59	45	58
Sociology	547	540	441	450	436	432	402	369	364	317	315	271	274	233	241	255
Statistics	18	15	19	8	17	16	14	16	13	15	19	13	16	17	21	5
Urban studies(41)	61	41	46	51	42	42	48	30	45	33	21	30	39	24	28	33
Social sciences, general	27	16	17	22	22	14	23	11	7	7	18	15	9	12	10	20
Social sciences, other	102	72	94	113	73	90	99	96	89	81	73	83	121	100	122	130
PSYCHOLOGY	2,511	2,513	2,492	2,522	2,533	2,819	2,607	2,740	2,652	2,552	2,509	2,476	2,404	2,423	2,589	2,503
Clinical	805	832	873	865	921	1,088	1,005	1,032	1,003	993	941	952	857	941	1,045	1,030
Cognitive(6)	-	-	-	-	-	-	-	55	63	69	60	65	62	65	58	74
Comparative(42)	23	20	19	17	7	10	10	9	12	11	13	9	6	5	7	6
Counseling(43)	240	234	239	270	260	301	300	377	401	378	393	415	419	434	407	420
Developmental(44)	172	181	186	193	173	186	163	190	176	150	161	167	154	128	127	122
Educational	107	118	115	130	107	157	116	123	171	105	89	72	82	75	81	81
Experimental(42)	320	296	265	254	266	256	213	176	153	147	126	131	112	125	112	107
Indust/organizational(45)	61	70	65	78	56	74	77	81	93	92	98	94	104	89	103	120
Physiological(42)	114	116	102	94	91	90	80	80	62	65	64	55	69	55	40	35
Quantitative(6)	-	-	-	-	-	-	-	13	16	12	20	11	11	6	11	5
Personality	52	56	31	31	35	43	30	29	22	17	14	21	14	21	16	13
Psychometrics	21	15	11	19	18	24	8	10	6	7	11	8	7	5	5	6
School	130	134	110	112	165	120	151	111	74	79	100	83	100	86	76	70
Social	165	173	169	180	164	149	143	147	126	135	106	104	119	98	115	120
Psychology, general	148	154	186	118	119	164	146	175	143	146	166	159	190	177	247	171
Psychology, other	153	114	121	161	151	157	165	132	131	146	147	130	98	113	139	123
TOTAL, ENGINEERING	1,421	1,305	1,074	1,086	1,068	1,009	1,015	1,016	1,062	1,097	1,229	1,331	1,530	1,583	1,686	1,659
Aerospace,aero/astronaut(46)	78	54	41	25	30	44	31	35	43	48	38	55	59	66	69	84
Agricultural	21	16	20	19	22	16	20	18	23	21	24	34	37	46	46	25
Bioengineering/biomed(47)	58	53	50	50	45	43	44	47	40	42	42	44	65	69	67	79
Ceramic	12	18	19	13	12	11	11	13	14	11	14	24	12	15	22	28
Chemical	137	136	112	123	110	118	113	140	143	181	195	243	293	306	270	270
Civil	109	99	78	83	81	88	98	104	114	99	108	125	143	143	141	116
Communications(6)	-	-	-	-	-	-	-	10	5	10	9	3	7	10	6	5
Computer	55	68	31	29	26	26	18	27	23	11	24	19	21	32	34	44
Electrical/electronics(48)	-	-	-	-	-	-	-	161	212	209	260	234	295	318	372	372
Electrical(48)	264	219	174	201	188	164	165	26	2	1	-	-	-	-	-	-
Electronics(48)	43	41	22	30	35	39	36	8	-	-	-	-	-	-	-	-
Engineering mechanics	54	49	36	31	35	32	45	23	35	26	33	36	30	30	27	23
Engineering physics(49)	17	15	12	10	11	11	11	6	6	6	8	13	5	9	6	11
Engineering science(6)	-	-	-	-	-	-	-	14	8	13	15	11	15	9	13	16
Environmental health eng(50)	40	45	38	44	50	45	34	27	31	16	16	15	19	20	21	21
Fuel tech/petro eng(9)	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	35	35	30	40	32	30	34	25	25	28	30	39	30	41	49	39
Materials science	49	55	67	51	61	45	57	61	60	79	73	97	105	99	108	124
Mechanical	167	140	132	127	113	101	132	105	100	134	148	167	195	188	234	213
Metallurgical(51)	47	46	37	40	47	26	31	29	26	37	22	30	34	33	37	23
Mining/mineral(52)	1	1	3	2	1	4	4	7	3	6	7	10	5	10	12	6
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	2	2	3	4	1	1	1	1
Nuclear(49)	76	61	56	51	50	52	49	29	52	33	34	26	51	28	32	34
Ocean(6)	-	-	-	-	-	-	-	2	4	3	8	4	5	6	1	2
Operations research	51	43	40	35	36	37	21	19	28	20	26	22	22	27	14	26
Petroleum(53)	5	5	1	3	6	3	5	2	6	5	5	5	8	7	13	9
Polymer(6)	-	-	-	-	-	-	-	7	7	13	16	4	8	15	15	13
Systems(54)	41	39	29	38	32	28	19	23	17	16	13	17	17	12	19	20
Engineering, general	15	20	13	14	17	11	8	7	5	3	17	20	17	14	16	12
Engineering, other	45	46	33	26	28	35	29	41	28	24	41	30	30	29	41	43
TOTAL, NON-S&E(55)	11,520	10,777	10,131	10,085	10,150	9,890	9,646	9,584	9,429	9,103	9,012	8,980	8,906	8,978	9,600	9,506
TOTAL, ALL FIELDS	24,373	23,065	21,811	21,920	21,994	21,980	21,680	21,700	21,350	20,763	20,628	20,462	20,782	20,893	22,156	21,859

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS UNKNOWN RACE																
TOTAL, S&E	593	621	883	877	767	618	382	395	361	351	274	303	262	264	262	215
TOTAL, SCIENCES	542	550	789	773	685	566	335	351	316	295	245	254	218	221	223	178
PHYSICAL SCIENCES	105	135	170	174	162	140	63	70	70	65	62	54	61	45	58	37
Physics/astronomy	64	73	85	86	80	67	29	35	24	31	22	22	32	21	30	22
Acoustics	-	2	1	-	-	1	-	-	-	-	1	-	-	-	-	-
Astronomy(1)	4	7	8	5	3	5	1	2	-	3	3	-	3	2	-	-
Astrophysics(1)	2	3	4	5	6	2	4	4	2	2	1	1	-	-	2	2
Atomic/molecular	7	4	6	5	12	4	-	2	2	1	2	2	1	1	1	2
Electromagnetism(3)	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	5	3	12	11	7	11	3	5	-	1	2	4	4	1	1	4
Fluids	-	-	-	1	2	-	-	1	1	1	-	2	-	-	-	-
Nuclear(5)	-	7	8	6	4	7	-	3	2	5	1	1	3	1	3	1
Optics	1	1	-	1	-	3	-	-	1	-	-	-	1	3	3	1
Plasma	4	4	6	4	2	4	2	2	1	1	3	-	2	1	1	3
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-
Solid state	12	14	13	17	13	10	4	5	4	5	2	3	6	5	6	7
Thermal(8)	1	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Physics, general	19	23	19	22	27	13	10	10	9	8	6	5	10	5	10	2
Physics, other	8	4	7	8	4	7	5	1	2	4	1	3	2	1	3	-
Chemistry	41	62	85	88	82	73	34	35	46	34	40	32	29	24	28	15
Agricultural/food	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	3	5	9	9	9	9	1	3	4	3	3	2	-	5	3	1
Inorganic	4	5	13	11	5	8	6	6	7	5	8	3	3	3	-	2
Nuclear	-	1	1	3	-	1	-	1	1	-	2	-	-	-	-	-
Organic	12	14	22	24	18	11	14	7	8	5	13	9	11	6	7	3
Pharmaceutical	1	1	1	2	2	2	-	-	3	1	1	-	1	1	1	-
Physical	7	13	15	14	13	14	4	3	10	9	4	8	7	1	6	3
Polymer	-	1	2	3	5	-	-	-	-	-	2	3	1	-	1	-
Theoretical	1	1	1	-	2	-	-	1	1	1	1	-	-	1	1	-
Chemistry, general	11	18	19	12	25	26	7	11	11	8	6	4	4	7	8	5
Chemistry, other	1	3	2	8	3	2	2	3	1	2	-	3	2	-	1	1
EARTH, ATMOS, OCEAN SCI	24	27	39	31	23	16	10	20	14	12	11	17	11	8	10	14
Applied geology(9)	1	1	2	1	1	-	-	-	-	1	-	-	-	-	-	-
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	1
Atmos/meteorol sci, other	-	2	1	2	1	-	1	1	-	-	-	2	-	1	-	-
Atmospheric dynamics	1	-	2	2	-	-	-	-	-	-	-	-	-	-	-	1
Atmospheric phys/chem	1	-	-	-	1	-	1	-	1	-	-	-	-	-	1	-
Environmental sciences(10)	1	3	3	2	2	-	-	-	1	-	-	-	1	-	1	-
Geochemistry(11)	2	3	3	2	-	1	-	2	-	1	2	2	2	-	4	2
Geology(12)	-	-	-	-	-	-	-	5	3	4	3	2	2	1	1	4
Structural geology(12)	1	2	1	-	1	-	-	-	-	-	-	-	-	-	-	-
Geomorph/glacial geology	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Geophysics/seismology(13)	3	-	1	6	1	3	1	1	3	1	-	1	2	2	-	1
Hydrology/water res(14)	-	1	2	4	1	-	1	-	-	-	1	-	-	-	-	-
Marine sciences(6)	-	-	-	-	-	-	-	-	1	-	1	4	-	-	-	-
Marine sciences, other(15)	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-
Meteorology(16)	-	-	-	-	-	-	-	-	1	-	-	1	1	-	1	-
Minerology, petrology(11)	2	2	4	2	2	1	1	1	1	1	-	-	-	1	-	1
Oceanography	5	5	6	3	1	4	1	1	-	2	2	1	1	2	1	1
Paleontology	3	-	-	1	-	1	1	2	2	-	-	-	-	-	-	1
Stratigraphy, sediment	1	1	3	2	2	-	-	1	-	-	-	2	1	1	-	-
Geological sciences, gen(17)	-	-	-	-	-	-	-	2	1	-	1	1	-	-	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	2	-	-	-	-	1	-	-	1
Earth sciences, general(17)	1	3	7	2	8	5	1	-	-	-	-	-	-	-	-	-
Earth sciences, other(17)	1	3	2	1	1	1	2	-	-	-	-	-	-	-	-	-
Physical sciences, other(6)	-	-	-	-	-	-	-	1	-	1	1	1	-	-	1	1
MATHEMATICS	37	30	39	31	25	21	15	17	15	15	11	13	10	15	6	7
Algebra	1	1	2	3	3	1	1	1	1	2	3	2	-	3	-	1
Analysis/funct analysis(18)	1	3	5	7	2	1	3	2	1	2	1	2	2	2	-	1
Applied mathematics	3	4	3	3	6	4	4	1	2	1	4	-	1	4	3	-
Computing theory	5	5	5	-	-	-	-	1	2	1	-	-	-	-	-	-
Geometry	2	1	4	1	-	1	-	-	-	1	1	-	1	1	-	1
Logic	1	1	1	1	3	-	-	1	-	1	-	-	1	1	-	-
Math probability/stat(19)	4	1	4	4	3	3	2	3	3	-	1	1	3	1	-	2
Number theory	-	-	-	1	1	1	2	1	1	1	-	-	-	-	-	-
Operations research	1	1	-	2	1	-	-	-	1	-	1	1	1	2	-	-
Topology	3	3	5	2	1	4	2	1	2	-	-	2	1	-	-	-
Mathematics, general	14	9	10	6	4	5	-	5	1	4	-	5	-	1	3	2
Mathematics, other	2	1	-	1	1	1	1	1	1	2	-	-	-	-	-	-
COMPUTER & INFO SCI	-	3	9	9	15	8	4	9	6	10	10	9	7	17	8	8
Computer sciences	-	3	9	9	15	8	4	8	4	7	8	9	6	15	8	6
Information sci/systems(6)	-	-	-	-	-	-	-	1	2	3	2	-	1	2	-	2

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS																
UNKNOWN RACE																
AGRIC & BIOL SCI	135	124	214	221	221	177	120	88	101	77	61	76	59	73	63	57
Agricultural sciences	11	13	27	30	25	25	14	19	10	10	10	5	10	19	10	10
Agronomy	3	3	5	7	5	2	4	3	1	-	1	1	2	5	1	1
Animal breeding/genetics(21)	-	1	-	-	1	1	-	-	1	-	1	-	-	-	-	-
Animal nutrition(22)	-	-	-	-	-	-	-	-	-	1	1	1	-	1	-	-
Animal sci/nutrition(22)	2	2	3	8	6	3	4	-	-	-	-	-	-	-	-	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Animal sciences, other(22)	-	-	-	-	-	-	-	1	1	5	-	-	3	1	-	1
Fish/wildlife(23)	3	1	1	3	1	3	1	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Wildlife management(23)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Food sciences(24)	1	1	4	2	3	3	-	7	1	-	1	1	-	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	-
Forestry science(25)	-	2	7	3	1	1	2	2	2	2	2	-	-	-	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Renewable natrl rsrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-
Horticulture science	-	2	2	2	1	2	1	2	-	-	1	-	-	-	3	2
Plant breeding/genetics(26)	-	-	-	-	-	-	-	1	1	-	1	-	1	1	2	1
Plant pathology(26)	-	-	-	-	-	-	-	1	1	1	1	1	-	1	1	-
Phytopathology(26)	-	-	4	1	3	2	1	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
Soil sciences(28)	-	1	-	3	3	3	-	1	1	-	1	-	-	-	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2
Agriculture, general	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Agriculture, other	2	-	-	1	1	5	1	-	-	1	-	1	1	-	-	-
Biological sciences	124	111	187	191	196	152	106	69	91	67	51	71	49	54	53	47
Anatomy	7	4	5	8	5	3	5	4	1	1	-	3	1	-	3	-
Biochemistry	18	18	24	27	43	23	14	2	11	9	8	8	4	9	7	6
Biometrics/biostat	1	-	3	2	-	2	-	-	1	2	1	1	-	1	-	2
Biophysics	3	7	8	12	8	3	4	2	5	-	3	1	3	2	3	2
Botany, other(29)	-	-	-	-	-	-	-	1	5	2	1	-	-	1	1	1
Botany(29)	5	5	4	7	5	6	3	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	3	3	2	2	-	2	2	1	1
Cytology(30)	4	1	1	5	4	2	-	-	-	-	-	-	-	-	-	-
Devel bio/embryology(31)	-	-	-	2	1	-	-	-	-	-	-	1	-	-	-	1
Ecology	4	6	1	12	8	8	5	3	4	1	1	3	-	2	5	3
Endocrinology(6)	-	-	-	-	-	-	-	2	-	-	-	-	-	-	1	-
Entomology	3	6	1	3	6	5	5	1	5	2	2	1	-	-	2	3
Human/animal genetics(32)	-	-	-	-	-	-	-	1	1	5	2	2	2	1	1	2
Plant genetics(32)	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-
Genetics(32)	4	4	6	3	3	5	4	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	4	1	-	1	3	1	2	1	2
Plant pathology(33)	-	-	-	-	-	-	-	3	-	-	-	-	-	-	1	2
Pathology(33)	5	5	5	4	6	4	-	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	10	4	19	14	14	11	13	1	4	7	5	6	4	3	4	3
Human/animal physiol(34)	-	-	-	-	-	-	-	7	6	3	4	7	5	6	5	-
Animal physiology(34)	6	9	19	10	28	11	6	-	-	-	-	-	-	-	-	-
Plant physiology(34)	2	2	3	1	2	4	-	1	3	1	-	3	-	2	-	1
Hydrobiology	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Immunology	3	2	3	8	9	3	4	4	2	5	1	4	2	1	1	1
Microbiology(35)	-	-	-	-	-	-	-	2	7	1	3	5	5	2	1	2
Microbiology/bacteriol(35)	8	12	22	21	16	16	13	-	-	-	-	-	-	-	-	-
Molecular biology	4	5	13	9	12	10	2	9	2	4	4	10	3	6	4	7
Neurosciences	-	-	-	-	-	-	3	5	3	1	4	3	4	3	4	5
Nutritional sciences(36)	1	1	7	4	2	8	1	1	4	5	2	-	-	1	-	-
Parasitology	-	-	-	1		1	-	-	1	-	-	-	-	-	-	-
Toxicology(6)	-	-	-	-	-	-	-	-	3	-	-	1	3	2	-	1
Zoology, other(37)	-	-	-	-	-	-	-	1	4	1	1	3	3	1	2	-
Zoology(37)	10	7	7	19	8	5	4	-	-	-	-	-	-	-	-	-
Biological sci, general	22	11	26	11	8	16	13	7	6	13	5	5	6	5	4	-
Biological sci, other	4	2	10	7	8	6	7	5	9	1	1	1	1	1	2	2

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS UNKNOWN RACE																
SOCIAL SCIENCES	159	131	166	172	125	124	76	81	61	72	57	48	39	34	29	40
Agricultural economics	5	2	2	6	6	5	4	3	3	4	2	1	2	3	-	-
Anthropology	23	21	27	34	21	24	10	10	10	16	8	12	9	10	2	5
Area studies	1	2	-	-	1	1	1	1	2	1	-	-	-	1	-	1
Criminology(38)	-	-	-	-	-	-	1	1	1	-	-	-	1	1	1	1
Demography(6)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Econometrics	3	2	1	1	1	-	-	-	-	-	-	-	-	-	-	2
Economics	36	25	35	48	29	34	15	13	11	17	14	11	6	9	6	9
Geography	3	8	9	5	6	6	3	5	-	1	1	2	3	1	1	2
History of science(39)	4	1	-	6	2	3	1	-	1	1	-	-	-	-	1	2
International relations	5	5	4	-	3	3	3	3	4	4	2	1	-	-	-	1
Linguistics	6	6	11	5	6	4	6	4	4	4	2	3	1	1	2	2
Pol sci/government(40)	-	-	-	-	-	-	-	18	17	16	8	7	8	4	7	6
Political science(40)	25	26	36	25	22	19	16	-	-	-	-	-	-	-	-	-
Pol sci, public admin(40)	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	1	1	-	1	2	2	-	1	1
Sociology	28	26	29	29	20	17	12	11	3	5	12	7	3	4	5	6
Statistics	2	1	1	1	-	1	-	1	-	-	-	-	-	-	-	-
Urban studies(41)	1	1	2	2	4	2	1	5	1	1	3	2	1	-	-	-
Social sciences, general	1	-	4	2	1	-	-	-	-	1	1	-	-	-	1	-
Social sciences, other	11	5	5	8	3	5	3	5	3	-	3	-	3	-	2	2
PSYCHOLOGY	82	100	152	135	114	80	47	66	49	44	33	37	31	29	49	15
Clinical	18	14	27	43	31	29	12	25	14	16	11	11	9	11	29	6
Cognitive(6)	-	-	-	-	-	-	-	1	-	-	2	1	4	1	-	2
Comparative(42)	1	-	-	2	1	-	-	1	-	-	-	-	-	-	-	-
Counseling(43)	1	10	13	12	10	3	3	6	4	4	1	6	5	4	1	2
Developmental(44)	1	6	8	9	8	5	-	2	3	1	-	5	-	-	-	1
Educational	3	1	7	8	6	5	4	6	3	1	1	1	1	-	2	2
Experimental(42)	11	13	10	14	12	3	1	4	1	1	2	1	-	1	2	1
Indust/organizational(45)	-	1	1	2	3	3	-	1	-	2	-	2	2	3	2	-
Physiological(42)	4	5	5	-	3	1	-	-	2	1	4	2	2	-	-	-
Personality	1	2	4	4	4	1	3	-	-	1	-	-	-	-	-	-
Psychometrics	1	-	1	1	-	-	-	-	-	1	-	-	-	-	-	-
School	2	1	6	1	2	4	1	1	1	2	1	-	-	1	1	-
Social	7	6	11	4	2	3	1	2	4	-	1	-	2	4	2	-
Psychology, general	30	36	50	25	26	22	17	15	11	12	9	6	3	4	9	1
Psychology, other	2	5	9	10	6	1	5	2	6	2	1	2	3	-	1	-
TOTAL, ENGINEERING	51	71	94	104	82	52	47	44	45	56	29	49	44	43	39	37
Aerospace,aero/astronaut(46)	4	1	1	4	2	4	1	3	1	1	-	1	-	1	1	2
Agricultural	-	-	-	2	3	1	-	-	2	-	-	-	2	2	1	1
Bioengineering/biomed(47)	1	4	5	2	7	4	2	4	2	2	1	1	4	-	1	3
Ceramic	-	-	-	2	1	-	-	-	-	1	-	1	-	-	1	1
Chemical	7	12	7	8	8	4	7	6	8	13	2	6	7	6	5	6
Civil	3	4	3	5	5	3	3	3	1	2	2	5	7	3	2	1
Communications(6)	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-
Computer	5	2	2	3	-	-	2	-	-	-	-	3	1	1	2	2
Electrical/electronics(48)	-	-	-	-	-	-	-	8	11	16	4	13	11	13	9	8
Electrical(48)	11	17	23	25	19	13	10	-	-	-	-	-	-	-	-	-
Electronics(48)	2	2	7	2	4	1	3	-	-	-	-	-	-	-	-	-
Engineering mechanics	2	1	4	7	2	3	-	-	1	2	3	-	-	3	1	2
Engineering physics(49)	-	1	-	-	1	-	-	1	-	-	-	-	-	-	-	-
Engineering science(6)	-	-	-	-	-	-	-	1	1	-	1	-	-	1	-	-
Environmental health eng(50)	1	2	3	5	1	1	-	-	-	-	-	-	-	-	-	-
Industrial	1	2	3	4	2	2	-	1	-	-	-	2	1	-	-	1
Materials science	2	5	3	5	4	4	1	-	8	3	3	1	3	2	6	2
Mechanical	3	3	8	13	5	4	8	4	3	6	7	6	3	5	2	3
Metallurgical(51)	5	5	9	2	4	-	3	2	1	1	-	4	2	1	-	-
Mining/mineral(52)	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
Nuclear(49)	-	2	4	3	3	4	2	2	2	1	-	1	-	-	-	-
Ocean(6)	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-
Operations research	1	1	5	1	2	1	-	-	-	1	1	-	-	1	1	1
Petroleum(53)	-	-	-	1	1	-	1	1	-	-	-	-	1	-	-	-
Polymer(6)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
Systems(54)	-	-	-	3	-	2	-	-	-	2	-	-	-	2	2	1
Engineering, general	1	1	5	-	5	-	2	2	1	-	2	1	-	-	2	1
Engineering, other	2	6	2	7	3	1	1	4	2	5	1	3	1	2	3	1
TOTAL, NON-S&E(55)	494	490	641	640	484	436	218	230	241	171	156	175	125	120	117	116
TOTAL, ALL FIELDS	1,087	1,111	1,524	1,517	1,251	1,054	600	625	602	522	430	478	387	384	379	331

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS																
NATIVE AMERICAN																
TOTAL, S&E	10	30	22	28	27	26	38	28	31	41	52	52	41	52	41	55
TOTAL, SCIENCES	10	29	20	25	24	22	35	27	28	40	46	45	37	45	37	49
PHYSICAL SCIENCES	-	6	4	1	3	1	3	6	4	3	5	7	6	10	3	10
Physics/astronomy	-	4	1	-	-	-	3	3	1	1	-	1	1	5	-	1
Astrophysics(1)	-	-	-	-	-	-	1	1	-	-	-	-	-	2	-	-
Atomic/molecular	-	1	-	-	-	-	-	-	-	1	-	-	-	1	-	-
Elementary particle	-	-	-	-	-	-	1	1	1	-	-	-	-	1	-	-
Plasma	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Solid state	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	1
Physics, general	-	2	-	-	-	-	-	-	-	-	-	1	1	1	-	-
Physics, other	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemistry	-	2	3	1	3	1	-	3	3	2	5	6	5	5	3	9
Analytical	-	-	1	-	1	1	-	1	1	1	1	-	-	-	-	5
Inorganic	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-
Organic	-	1	2	1	1	-	-	-	1	-	1	2	1	2	1	2
Pharmaceutical	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-
Physical	-	-	-	-	-	-	-	-	-	-	1	1	1	-	1	1
Theoretical	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Chemistry, general	-	1	-	-	1	-	-	-	-	-	2	1	1	2	1	1
Chemistry, other	-	-	-	-	-	-	-	-	1	1	-	1	-	1	-	-
EARTH, ATMOS, OCEAN SCI	-	-	-	2	2	-	-	2	-	1	2	-	2	6	1	3
Atmospheric dynamics	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Environmental sciences(10)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Geochemistry(11)	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	1
Geology(12)	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-
Geophysics/seismology(13)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Marine sciences(6)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-
Minerology, petrology(11)	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-
Oceanography	-	-	-	-	-	-	-	1	-	-	-	-	1	1	1	1
Paleontology	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Stratigraphy, sediment	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Earth sciences, general(17)	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
MATHEMATICS	-	1	1	-	-	1	1	-	3	-	1	-	2	-	1	-
Applied mathematics	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-
Geometry	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Logic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Math probability/stat(19)	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Mathematics, general	-	-	1	-	-	1	-	-	1	-	-	-	2	-	-	-
COMPUTER & INFO SCI	-	-	-	1	-	-	1	1	-	-	-	3	1	2	-	1
Computer sciences	-	-	-	1	-	-	1	-	-	-	-	2	-	2	-	1
Information sci/systems(6)	-	-	-	-	-	-	-	1	-	-	-	1	1	-	-	-
AGRIC & BIOL SCI	3	8	7	3	6	7	10	5	11	17	17	13	12	9	8	14
Agricultural sciences	1	1	2	-	1	1	3	1	1	4	-	2	6	2	4	4
Agronomy	-	-	1	-	-	-	-	-	-	1	-	-	1	-	-	1
Animal breeding/genetics(21)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Animal sci/nutrition(22)	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Food sciences(24)	-	-	1	-	1	-	-	-	-	1	-	-	-	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1
Forestry science(25)	-	1	-	-	-	-	1	1	-	2	-	1	-	-	-	-
Forest engineering(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Plant pathology(26)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-
Soil sciences(28)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Agriculture, other	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
Biological sciences	2	7	5	3	5	6	7	4	10	13	17	11	6	7	4	10
Anatomy	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Biochemistry	-	-	-	1	1	1	-	-	1	2	2	-	-	1	-	1
Biometrics/biostat	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Biophysics	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Botany, other(29)	-	-	-	-	-	-	-	-	1	3	1	-	1	-	-	1
Botany(29)	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	-	-	1	1	-	-	-	1	-
Devel bio/embryology(31)	-	1	-	-	1	-	-	-	1	-	-	-	-	-	-	-
Ecology	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-	-
Entomology	-	-	-	1	-	1	1	-	-	-	1	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-
Plant pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Pathology(33)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	-	2	-	-	-	-	2	-	-	-	1	-	-	1	-	-
Human/animal physiol(34)	-	-	-	-	-	-	-	1	1	-	1	1	1	1	-	1
Animal physiology(34)	-	1	-	1	1	1	1	-	-	-	-	-	-	-	-	-
Plant physiology(34)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Immunology	-	-	-	-	-	-	1	-	3	-	2	-	3	-	-	-
Microbiology(35)	-	-	-	-	-	-	-	-	-	1	1	1	-	-	1	1
Bacteriology(35)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Microbiology/bacteriol(35)	-	-	2	-	1	1	-	-	-	-	-	-	-	-	-	-
Molecular biology	-	2	-	-	-	-	-	-	1	3	-	2	-	-	-	3
Neurosciences	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-	1
Nutritional sciences(36)	-	-	-	-	1	1	-	-	-	-	-	-	-	1	-	1
Toxicology(6)	-	-	-	-	-	-	-	-	-	1	2	1	-	-	-	-
Zoology, other(37)	-	-	-	-	-	-	-	1	-	-	-	-	1	1	-	-
Zoology(37)	-	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-
Biological sci, general	-	-	1	-	-	-	-	1	1	-	3	1	-	1	1	-
Biological sci, other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS																
NATIVE AMERICAN																
SOCIAL SCIENCES	3	5	5	8	7	4	4	4	4	9	12	6	7	7	6	8
Agricultural economics	-	1	-	-	-	1	-	-	-	-	-	-	1	-	-	-
Anthropology	-	-	-	2	-	1	-	2	2	3	2	1	2	1	1	1
Area studies	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Criminology(38)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Demography(6)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Economics	1	-	1	2	2	2	-	-	1	2	2	-	-	1	1	1
Geography	1	-	-	-	1	-	-	-	-	-	-	-	1	-	-	1
International relations	-	-	-	-	1	-	-	-	-	-	-	2	-	-	-	-
Linguistics	-	-	2	1	-	-	-	1	-	1	1	-	1	-	1	-
Pol sci/government(40)	-	-	-	-	-	-	-	1	-	1	-	-	-	1	1	2
Political science(40)	1	2	-	-	1	-	1	-	-	-	-	-	-	-	-	-
Sociology	-	1	1	3	2	-	2	-	1	-	4	2	2	1	1	2
Urban studies(41)	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	-
Social sciences, general	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Social sciences, other	-	-	1	-	-	-	-	-	-	1	2	-	-	1	1	1
PSYCHOLOGY	4	9	3	10	6	9	16	9	6	10	9	16	7	11	18	13
Clinical	-	3	2	5	2	4	6	4	2	2	7	5	4	2	8	4
Cognitive(6)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Counseling(43)	-	2	-	1	1	-	4	1	2	3	-	3	1	4	5	4
Developmental(44)	-	-	-	-	-	-	1	1	-	-	-	1	1	1	-	2
Educational	1	1	1	-	1	1	-	-	-	1	-	1	-	-	-	-
Experimental(42)	2	1	-	-	-	1	-	1	1	-	-	-	-	-	-	-
Indust/organizational(45)	-	-	-	1	-	1	-	-	-	1	1	-	-	-	-	-
Physiological(42)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
School	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Social	-	-	-	1	-	-	2	-	-	-	-	-	-	1	1	-
Psychology, general	-	1	-	-	1	-	3	1	1	1	1	5	1	2	2	1
Psychology, other	1	1	-	1	1	2	-	1	-	1	-	1	-	-	2	2
TOTAL, ENGINEERING	-	1	2	3	3	4	3	1	3	1	6	7	4	7	4	6
Aerospace,aero/astronaut(46)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Agricultural	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Bioengineering/biomed(47)	-	-	-	-	1	-	1	-	-	-	1	-	-	-	-	-
Chemical	-	-	1	-	-	-	-	-	2	-	-	1	2	1	-	1
Civil	-	1	-	1	-	1	-	-	1	-	-	-	1	1	2	1
Electrical/electronics(48)	-	-	-	-	-	-	-	-	-	1	2	3	-	-	-	2
Electrical(48)	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Environmental health eng(50)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Materials science	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1	1
Mechanical	-	-	-	1	1	2	-	-	-	-	2	1	1	-	-	1
Metallurgical(51)	-	-	-	-	1	1	-	-	-	-	-	-	-	1	1	-
Mining/mineral(52)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Nuclear(49)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Engineering, general	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Engineering, other	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
TOTAL, NON-S&E(55)	30	36	38	53	48	59	39	54	43	55	47	63	53	42	55	75
TOTAL, ALL FIELDS	40	66	60	81	75	85	77	82	74	96	99	115	94	94	96	130

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS																
ASIAN																
TOTAL, S&E	801	745	835	877	865	821	765	778	774	808	807	921	912	979	999	1,151
TOTAL, SCIENCES	522	496	563	571	588	536	519	531	524	527	545	594	580	619	642	750
PHYSICAL SCIENCES	181	160	179	168	164	149	131	136	144	150	146	143	137	155	162	167
Physics/astronomy	52	63	58	63	46	56	43	53	47	38	37	35	52	59	63	49
Acoustics	-	-	1	1	3	2	-	1	1	1	-	-	1	-	-	1
Astronomy(1)	1	2	-	3	3	-	3	-	-	-	3	-	2	2	1	-
Astrophysics(1)	4	3	3	-	2	1	1	1	-	2	3	1	3	-	4	-
Atomic/molecular	6	5	4	4	3	3	7	9	4	1	1	2	3	4	5	3
Electron(2)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Electromagnetism(3)	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	3	7	5	7	7	4	3	4	6	7	3	5	7	3	7	4
Fluids	2	1	2	1	-	1	1	1	1	-	1	-	1	1	1	-
Nuclear(5)	3	6	2	5	3	1	2	3	3	2	3	4	3	4	3	2
Optics	2	2	2	1	4	4	-	3	2	2	1	-	7	5	1	3
Plasma	4	7	2	5	1	4	4	4	4	2	2	3	3	2	4	2
Polymer(6)	-	-	-	-	-	-	-	1	-	3	1	-	1	1	-	1
Solid state	14	13	18	20	11	16	10	13	16	10	9	6	7	24	19	17
Thermal(8)	-	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Physics, general	8	8	12	12	5	15	6	6	6	6	7	8	8	8	12	10
Physics, other	3	5	6	4	4	4	6	7	4	2	3	6	5	5	6	6
Chemistry	129	97	121	105	118	93	88	83	97	112	109	108	85	96	99	118
Agricultural/food	2	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	4	10	12	9	12	8	6	11	6	9	8	11	15	7	13	12
Inorganic	16	5	10	10	13	7	6	5	5	13	7	9	4	12	7	12
Nuclear	2	1	3	1	-	-	1	-	2	-	-	1	1	-	-	-
Organic	38	29	30	32	41	31	19	19	32	38	37	26	15	30	25	35
Pharmaceutical	10	7	13	7	10	3	7	8	8	10	10	5	5	4	4	6
Physical	32	24	25	21	19	13	25	15	15	10	17	20	15	22	10	27
Polymer	9	4	12	4	13	15	6	7	12	18	10	10	12	9	8	3
Theoretical	-	1	1	2	-	1	-	2	-	2	3	4	-	-	3	-
Chemistry, general	12	9	10	13	6	6	7	13	10	9	8	18	12	11	26	18
Chemistry, other	4	7	4	5	4	9	11	3	7	3	9	4	6	1	3	5
EARTH, ATMOS, OCEAN SCI	21	21	25	21	22	14	27	26	19	21	14	18	15	23	17	17
Applied geology(9)	1	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	1	-	1	1	-	1	-	-	1
Atmos/meteorol sci, other	3	2	4	1	2	3	3	2	-	-	-	-	1	1	-	-
Atmospheric dynamics	1	1	2	4	1	2	1	2	3	2	-	2	1	2	3	-
Atmospheric phys/chem	1	-	3	-	2	-	-	2	-	1	1	-	-	2	1	-
Environmental sciences(10)	1	2	2	2	3	1	2	4	2	2	1	1	2	3	2	3
Geochemistry(11)	2	3	1	1	1	1	2	1	2	-	2	1	4	1	1	-
Geology(12)	-	-	-	-	-	-	-	1	1	2	1	3	-	2	-	2
Geomorph/glacial geology	-	-	1	-	-	-	-	-	-	-	-	-	-	1	1	-
Geophysics/seismology(13)	-	4	6	5	4	4	10	3	2	6	3	4	2	4	2	6
Geophysics(13)	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	-	-	4	1	1	-	1	1	1	2	1	-	-	-	-	-
Marine sciences(6)	-	-	-	-	-	-	-	2	-	-	-	-	-	-	3	1
Marine sciences, other(15)	-	-	-	-	2	-	2	-	-	-	-	-	-	-	-	-
Meteorology(16)	4	-	-	-	-	-	-	1	2	1	2	2	1	-	-	1
Minerology, petrology(11)	1	2	-	-	1	-	-	-	-	-	-	2	-	1	-	-
Oceanography	2	5	1	3	4	2	2	2	3	2	2	-	1	4	2	1
Paleontology	-	-	-	-	-	-	-	-	1	-	-	1	-	1	-	-
Stratigraphy, sediment	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	1
Geological sciences, gen(17)	-	-	-	-	-	-	-	3	1	-	-	-	-	-	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1
Earth sciences, general(17)	1	1	1	1	1	1	3	-	-	-	-	-	-	-	-	-
Earth sciences, other(17)	-	1	-	1	-	-	1	-	-	-	-	-	-	-	-	-
Physical sciences, other(6)	-	-	-	-	-	-	-	-	1	2	-	-	1	1	2	-
MATHEMATICS	49	42	43	46	42	40	32	34	30	33	28	41	33	24	27	57
Algebra	3	3	-	3	1	2	1	1	4	2	2	2	-	-	1	4
Analysis/funct analysis(18)	4	6	8	7	2	4	5	2	1	2	4	2	7	5	3	4
Applied mathematics	6	7	3	5	6	11	7	6	5	6	3	13	5	4	8	14
Computing theory	8	3	-	-	1	2	-	-	1	-	-	3	-	-	-	2
Geometry	1	1	-	-	3	2	2	2	-	1	1	-	2	2	1	2
Logic	-	-	2	-	1	-	1	-	1	2	-	1	-	-	-	1
Math probability/stat(19)	9	12	14	14	17	10	10	16	13	14	3	13	8	7	4	17
Number theory	1	-	1	1	1	1	1	2	-	-	-	-	3	-	-	2
Operations research	4	4	1	5	4	1	1	-	-	1	5	2	1	-	1	1
Topology	3	1	2	3	3	1	-	1	1	1	1	1	1	2	1	3
Mathematics, general	5	3	6	8	3	4	1	1	2	2	7	2	4	3	8	7
Mathematics, other	5	2	6	-	-	2	3	3	2	2	2	2	2	1	-	-
COMPUTER & INFO SCI	-	-	4	9	9	16	12	20	20	17	37	26	44	52	48	65
Computer sciences	-	-	4	9	9	16	12	17	16	16	33	21	37	39	38	61
Information sci/systems(6)	-	-	-	-	-	-	-	3	4	1	4	5	7	13	10	4

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS																
ASIAN																
AGRIC & BIOL SCI	167	161	188	188	198	181	182	197	178	175	189	208	201	222	232	278
Agricultural sciences	20	21	37	23	28	25	23	33	20	24	22	38	30	23	32	23
Agronomy	1	3	3	2	2	3	5	2	3	1	-	4	3	3	1	1
Animal breeding/genetics(21)	-	-	-	1	1	1	-	1	-	-	-	1	-	-	-	-
Animal nutrition(22)	-	-	-	-	-	-	-	-	1	-	1	1	1	-	2	1
Animal sci/nutrition(22)	3	1	3	3	3	4	3	-	-	-	-	-	-	-	-	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	2	-	1	-
Animal sciences, other(22)	-	-	-	-	-	-	-	2	1	1	2	-	3	2	2	1
Fish/wildlife(23)	1	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	3	1	-	-	1	1	1	2	2
Wildlife management(23)	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Food sciences(24)	8	4	18	5	10	6	5	18	6	9	9	17	2	-	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	10	9	9	9
Forestry science(25)	1	2	5	2	-	3	1	2	-	1	2	1	-	-	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
Horticulture science	-	3	2	3	2	3	4	2	-	3	-	3	1	1	3	1
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	2	5	1	1	1	1	3	-
Plant pathology(26)	-	-	-	-	-	-	-	1	-	2	2	4	-	1	-	3
Phytopathology(26)	3	2	-	3	-	2	-	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	1	-	-	1	-	1	1	-
Soil sciences(28)	1	-	1	2	6	2	2	1	2	1	4	4	1	-	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	1
Agriculture, general	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Agriculture, other	1	3	3	1	4	1	2	-	2	1	1	-	-	-	1	-
Biological sciences	147	140	151	165	170	156	159	164	158	151	167	170	171	199	200	255
Anatomy	2	2	1	7	3	3	9	2	2	7	2	3	1	2	4	2
Biochemistry	44	34	44	42	35	37	34	37	33	34	31	29	29	43	33	56
Biometrics/biostat	5	3	4	5	5	2	2	4	6	3	-	3	2	10	3	1
Biophysics	6	9	11	9	9	3	4	9	6	4	2	3	6	5	10	8
Botany, other(29)	-	-	-	-	-	-	-	-	1	4	6	3	-	3	1	3
Botany(29)	5	1	5	4	5	3	3	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	5	4	4	4	2	2	6	7	6
Cytology(30)	1	1	-	4	4	-	3	-	-	-	-	-	-	-	-	-
Devel bio/embryology(31)	2	-	1	1	1	1	1	-	-	-	-	-	1	-	-	-
Ecology	2	1	4	5	1	4	-	2	1	5	2	3	1	2	3	4
Endocrinology(6)	-	-	-	-	-	-	-	2	4	1	2	-	-	1	2	2
Entomology	2	5	8	6	5	9	7	4	3	1	1	3	4	3	1	2
Human/animal genetics(32)	-	-	-	-	-	-	-	4	5	5	4	5	9	7	5	12
Plant genetics(32)	-	-	-	-	-	-	-	-	-	2	1	-	1	-	1	-
Genetics(32)	6	5	3	9	9	5	6	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	7	4	2	6	12	7	6	6	1
Plant pathology(33)	-	-	-	-	-	-	-	-	-	2	2	-	1	-	-	1
Pathology(33)	2	5	1	1	3	4	2	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	13	12	10	5	15	16	15	11	12	11	15	20	12	11	15	11
Human/animal physiol(34)	-	-	-	-	-	-	-	5	8	8	9	8	11	8	19	12
Animal physiology(34)	6	9	8	14	9	10	9	-	-	-	-	-	-	-	-	-
Plant physiology(34)	4	-	2	2	3	2	3	3	3	1	2	4	4	1	5	-
Hydrobiology	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Immunology	2	7	5	6	12	11	7	5	6	6	11	5	13	12	6	7
Microbiology(35)	-	-	-	-	-	-	-	16	16	8	16	12	11	16	17	27
Bacteriology(35)	-	-	-	-	-	-	-	1	1	-	1	-	-	-	-	2
Microbiology/bacteriol(35)	16	11	13	20	23	16	18	-	-	-	-	-	-	-	-	-
Molecular biology	6	9	8	5	8	5	9	9	13	15	21	18	19	33	15	37
Neurosciences	-	-	-	-	-	-	5	3	7	3	3	5	11	5	7	21
Nutritional sciences(36)	9	10	8	7	6	4	4	13	7	5	9	5	6	8	8	7
Parasitology	-	1	-	1	1	-	-	-	-	1	1	-	-	-	-	-
Toxicology(6)	-	-	-	-	-	-	-	3	4	4	3	6	3	2	2	5
Zoology, other(37)	-	-	-	-	-	-	-	7	3	6	2	2	3	3	2	2
Zoology(37)	2	3	2	3	1	3	6	-	-	-	-	-	-	-	-	-
Biological sci, general	6	4	7	4	6	14	7	9	6	8	5	10	9	6	20	18
Biological sci, other	6	8	6	4	6	4	5	3	3	1	6	9	5	6	8	8

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS																
ASIAN																
SOCIAL SCIENCES	82	79	96	103	103	95	104	74	90	87	90	111	103	88	103	110
Agricultural economics	4	1	5	7	2	4	3	4	5	2	3	7	2	3	2	4
Anthropology	5	6	5	7	9	4	4	2	5	12	5	12	7	4	8	8
Area studies	2	-	1	-	-	1	1	-	-	1	1	-	1	-	-	1
Criminology(38)	-	-	-	-	1	-	-	1	-	2	-	1	1	-	-	2
Demography(6)	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	2
Econometrics	3	2	2	-	2	3	2	-	-	1	2	-	2	-	3	-
Economics	24	20	32	29	38	32	36	36	32	26	28	43	47	35	31	34
Geography	1	1	3	6	5	4	3	-	3	4	5	2	1	3	2	-
History of science(39)	2	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-
International relations	4	4	2	5	4	1	3	1	6	1	4	1	2	1	2	3
Linguistics	5	8	4	9	6	5	8	5	8	11	6	7	4	6	9	8
Pol sci/government(40)	-	-	-	-	-	-	-	8	13	10	11	9	6	16	11	13
Political science(40)	9	18	11	8	11	15	10	-	-	-	-	-	-	-	-	-
Pol sci, public admin(40)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	1	1	1	2	-	1	2	9	5
Sociology	12	15	16	21	14	18	19	10	11	8	11	18	13	13	15	17
Statistics	1	1	9	2	6	3	5	2	1	4	6	5	6	1	3	2
Urban studies(41)	5	2	3	6	2	2	5	2	3	3	1	2	4	1	3	4
Social sciences, general	-	-	1	1	1	-	3	1	1	-	-	-	-	1	1	-
Social sciences, other	3	1	2	2	2	3	2	1	1	1	5	3	4	2	3	7
PSYCHOLOGY	22	33	28	36	50	41	31	44	43	44	41	47	47	55	53	56
Clinical	7	6	2	11	18	13	11	13	17	16	23	22	16	23	19	16
Cognitive(6)	-	-	-	-	-	-	-	1	-	2	2	2	3	2	1	1
Comparative(42)	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-
Counseling(43)	-	3	2	1	4	6	-	5	2	4	2	5	9	6	2	8
Developmental(44)	3	4	3	2	3	2	4	5	3	3	3	2	3	1	4	6
Educational	-	1	4	2	4	2	3	3	5	2	-	3	-	1	3	3
Experimental(42)	3	2	2	7	5	4	4	2	3	1	2	2	4	3	4	6
Indust/organizational(45)	-	1	1	-	-	1	-	1	-	1	1	1	-	-	4	2
Physiological(42)	2	2	3	2	3	3	3	4	1	1	1	1	3	2	-	-
Quantitative(6)	-	-	-	-	-	-	-	1	1	2	-	-	-	3	-	-
Personality	-	-	2	-	2	1	2	-	-	-	-	-	-	1	-	-
Psychometrics	-	2	1	1	2	-	-	-	-	-	-	1	-	-	2	-
School	-	2	-	1	-	1	-	-	-	1	-	-	-	-	-	-
Social	5	4	2	2	4	1	1	3	5	4	2	4	1	4	7	4
Psychology, general	2	4	2	3	3	3	3	3	4	2	2	4	6	9	7	5
Psychology, other	-	2	3	4	2	4	-	2	2	5	3	-	2	-	-	5
TOTAL, ENGINEERING	279	249	272	306	278	285	246	247	250	281	262	327	332	360	357	401
Aerospace,aero/astronaut(46)	6	6	15	10	7	6	7	9	7	12	3	10	13	9	10	16
Agricultural	2	1	3	2	-	4	2	4	5	1	1	-	1	4	4	1
Bioengineering/biomed(47)	4	6	8	7	4	6	1	6	3	5	5	3	8	7	8	10
Ceramic	5	2	2	-	4	3	3	3	1	1	-	4	3	3	2	3
Chemical	37	37	42	41	35	42	37	32	34	48	54	49	58	67	46	43
Civil	40	25	19	20	21	26	25	21	31	24	20	30	24	32	26	26
Communications(6)	-	-	-	-	-	-	-	5	1	5	3	6	5	1	5	1
Computer	13	16	9	13	7	16	7	9	6	12	7	5	15	8	16	15
Electrical/electronics(48)	-	-	-	-	-	-	-	52	58	46	61	67	83	84	93	124
Electrical(48)	50	57	42	71	45	51	47	3	1	-	-	-	-	-	-	-
Electronics(48)	4	12	3	14	7	7	9	3	-	-	-	-	-	-	-	-
Engineering mechanics	13	15	11	10	10	7	10	5	7	7	4	7	10	7	9	5
Engineering physics(49)	2	-	1	1	2	3	-	-	-	2	2	-	1	1	2	2
Engineering science(6)	-	-	-	-	-	-	-	1	1	4	3	1	2	-	5	5
Environmental health eng(50)	5	3	6	7	5	2	5	3	2	2	6	4	3	3	2	4
Industrial	1	5	2	9	6	6	8	8	6	6	9	6	11	12	8	16
Materials science	20	17	15	21	15	18	13	17	21	17	19	25	17	22	24	38
Mechanical	28	17	39	35	55	36	31	29	30	51	27	54	47	59	59	55
Metallurgical(51)	7	6	15	10	17	15	5	8	10	10	11	15	6	9	5	2
Mining/mineral(52)	-	-	2	-	-	1	1	2	4	-	-	3	3	3	2	2
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Nuclear(49)	10	11	8	10	13	15	7	7	6	5	7	11	3	3	9	7
Ocean(6)	-	-	-	-	-	-	-	-	-	-	-	2	2	-	1	1
Operations research	6	3	8	5	7	10	8	4	2	5	5	7	1	2	3	7
Petroleum(53)	1	2	3	-	2	2	3	-	-	5	2	3	5	4	3	1
Polymer(6)	-	-	-	-	-	-	-	3	4	7	2	8	4	6	2	6
Systems(54)	7	5	6	10	4	3	3	5	7	2	2	1	4	3	2	1
Engineering, general	7	-	3	3	3	3	3	3	-	-	3	5	2	4	5	4
Engineering, other	11	3	10	7	9	3	11	5	3	4	6	1	1	7	5	5
TOTAL, NON-S&E(55)	174	165	197	225	236	252	239	265	245	261	251	246	323	282	303	340
TOTAL, ALL FIELDS	975	910	1,032	1,102	1,102	1,073	1,004	1,043	1,019	1,069	1,058	1,167	1,235	1,261	1,302	1,491

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS																
BLACK																
TOTAL, S&E	292	326	330	321	319	332	336	322	357	357	318	308	346	352	364	420
TOTAL, SCIENCES	271	311	317	301	301	313	316	293	342	323	294	283	315	319	324	365
PHYSICAL SCIENCES	25	32	37	37	16	24	26	25	34	27	25	20	33	31	30	31
Physics/astronomy	5	10	8	8	4	6	11	9	11	4	8	7	12	5	6	9
Acoustics	-	-	-	-	-	-	-	-	2	-	-	-	1	1	1	-
Astronomy(1)	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-
Astrophysics(1)	-	-	-	1	1	1	-	-	-	-	-	1	-	-	1	-
Atomic/molecular	-	3	-	1	-	1	1	1	-	-	3	-	1	-	-	-
Elementary particle	2	3	3	-	-	1	3	1	-	1	2	2	3	-	-	1
Nuclear(5)	-	1	1	2	-	-	1	2	1	-	-	-	-	-	-	1
Optics	-	-	-	1	-	-	-	-	1	-	-	-	1	-	-	-
Plasma	-	-	-	-	2	1	-	-	1	-	1	-	-	-	-	-
Solid state	2	3	1	1	-	-	4	3	4	1	1	2	2	2	1	4
Physics, general	-	-	2	-	-	2	1	2	1	1	1	1	2	2	3	1
Physics, other	1	-	1	2	1	-	-	-	1	1	-	-	2	-	-	2
Chemistry	20	22	29	29	12	18	15	16	23	23	17	13	21	26	24	22
Agricultural/food	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	3	4	5	2	-	1	1	-	1	2	4	4	6	2	2	4
Inorganic	3	2	5	5	2	5	2	2	1	2	1	3	2	3	2	2
Nuclear	2	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Organic	2	5	4	9	3	3	4	5	11	11	2	3	5	8	11	7
Pharmaceutical	-	-	1	-	-	1	-	-	-	-	-	-	-	4	-	-
Physical	6	7	7	9	2	2	4	5	6	2	3	2	1	5	2	7
Polymer	-	2	2	1	-	-	1	-	-	2	3	1	1	-	-	-
Theoretical	1	1	-	1	-	-	-	-	-	-	-	-	1	-	-	-
Chemistry, general	2	1	4	2	3	6	3	2	2	2	3	-	4	3	6	2
Chemistry, other	-	-	1	-	2	-	-	2	2	1	1	-	1	1	1	-
EARTH, ATMOS, OCEAN SCI	-	2	4	3	1	4	3	1	3	4	1	2	3	4	3	3
Atmos/meteorol sci, other	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	-
Atmospheric phys/chem	-	-	-	1	-	1	1	-	-	-	-	-	-	-	-	-
Environmental sciences(10)	-	-	2	-	-	2	-	-	-	1	-	1	1	2	-	-
Geochemistry(11)	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Geology(12)	-	-	-	-	-	-	-	-	1	-	-	-	1	1	1	-
Geomorph/glacial geology	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Geophysics/seismology(13)	-	-	-	-	-	1	1	-	-	-	-	-	1	-	-	1
Hydrology/water res(14)	-	1	1	-	-	-	1	-	1	-	-	-	-	-	-	-
Meteorology(16)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Minerology, petrology(11)	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Oceanography	-	1	-	-	-	-	-	-	1	-	-	-	-	1	-	1
Stratigraphy, sediment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Earth sciences, general(17)	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
MATHEMATICS	5	10	13	11	12	9	6	3	4	7	6	11	4	8	4	11
Algebra	2	-	2	2	2	-	1	-	-	-	-	-	1	1	-	2
Analysis/funct analysis(18)	1	3	2	3	3	3	-	-	1	-	-	1	-	1	1	-
Applied mathematics	-	3	3	1	1	-	-	-	1	-	3	2	1	2	-	1
Computing theory	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Geometry	-	1	-	-	-	-	1	-	-	-	-	-	-	-	1	1
Logic	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-
Math probability/stat(19)	-	1	2	1	2	3	2	1	1	4	1	4	-	-	1	4
Number theory	-	-	-	1	-	-	-	-	-	-	-	1	-	-	1	2
Operations research	-	-	1	1	-	2	1	-	1	-	-	-	-	-	-	1
Topology	1	1	1	1	-	-	-	1	-	-	-	-	-	-	-	-
Mathematics, general	-	1	-	1	2	1	-	1	-	1	1	2	1	2	-	-
Mathematics, other	1	-	1	-	2	-	-	-	-	2	1	1	-	2	-	-
COMPUTER & INFO SCI	-	-	-	1	-	2	1	3	3	3	1	2	2	1	1	8
Computer sciences	-	-	-	1	-	2	1	2	3	3	1	1	1	-	1	5
Information sci/systems(6)	-	-	-	-	-	-	-	1	-	-	-	1	1	1	-	3

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS																
BLACK																
AGRIC & BIOL SCI	61	51	66	44	58	61	56	58	68	69	64	73	68	70	65	74
Agricultural sciences	8	15	11	9	7	11	7	12	18	16	16	13	20	14	15	17
Agronomy	3	1	1	2	2	-	2	4	3	1	1	1	5	-	4	2
Animal breeding/genetics(21)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
Animal nutrition(22)	-	-	-	-	-	-	-	-	2	-	1	-	1	2	-	2
Animal sci/nutrition(22)	1	2	4	-	-	2	3	-	-	-	-	-	-	-	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Animal sciences, other(22)	-	-	-	-	-	-	-	3	1	2	1	3	1	-	1	-
Fish/wildlife(23)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	1	-	-	1	-	-	-	1	1
Wildlife management(23)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	2	-	1	-
Food sciences(24)	1	3	1	3	-	1	1	-	4	4	2	2	1	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	2	1	4	1
Forestry science(25)	-	1	-	-	-	2	-	1	-	2	-	1	-	-	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	3
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Horticulture science	2	-	-	2	1	1	-	2	1	-	2	2	-	2	1	1
Plant breeding/genetics(26)	-	-	-	-	-	-	-	1	-	-	1	1	2	2	-	1
Plant pathology(26)	-	-	-	-	-	-	-	-	3	1	3	1	1	1	-	1
Phytopathology(26)	-	2	-	1	2	1	-	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
Soil sciences(28)	1	4	1	-	-	3	-	-	-	2	2	2	1	-	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	2
Agriculture, general	-	-	-	-	-	-	-	-	-	1	-	-	1	1	-	-
Agriculture, other	-	2	3	1	2	1	1	-	1	2	2	-	-	2	-	1
Biological sciences	53	36	55	35	51	50	49	46	50	53	48	60	48	56	50	57
Anatomy	-	-	2	2	3	1	-	-	3	-	-	-	-	2	1	1
Biochemistry	4	6	9	5	7	9	5	7	5	6	6	6	7	6	12	7
Biometrics/biostat	-	-	-	2	-	-	2	3	1	2	-	2	3	1	-	1
Biophysics	-	1	-	-	2	-	1	-	-	-	-	-	1	3	-	-
Botany, other	-	-	-	-	-	-	-	-	1	1	-	2	-	-	-	1
Botany(29)	1	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-
Cell biology	-	-	-	-	-	-	-	2	6	1	4	2	2	2	2	1
Cytology(30)	2	-	-	1	-	1	1	-	-	-	-	-	-	-	-	-
Devel bio/embryology(31)	-	-	-	2	-	3	-	-	1	-	-	-	-	-	-	-
Ecology	2	2	-	-	2	-	-	1	2	-	1	2	-	1	-	1
Endocrinology(6)	-	-	-	-	-	-	-	-	2	-	-	-	2	-	2	1
Entomology	2	1	1	-	2	-	-	-	-	1	3	1	2	3	2	-
Human/animal genetics(32)	-	-	-	-	-	-	-	1	1	3	-	2	1	1	-	1
Plant genetics(32)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Genetics(32)	6	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	3	3	1	4	-	-	3	2	4
Plant pathology(33)	-	-	-	-	-	-	-	1	-	2	-	-	-	-	-	-
Pathology(33)	1	-	2	-	2	-	3	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	4	1	6	1	4	3	2	-	3	7	5	1	1	4	4	5
Human/animal physiol(34)	-	-	-	-	-	-	-	3	3	4	2	2	4	3	7	5
Animal physiology(34)	6	-	4	5	1	2	4	-	-	-	-	-	-	-	-	-
Plant physiology(34)	-	1	-	-	2	-	-	1	1	-	2	1	-	-	-	-
Immunology	4	-	1	2	2	2	2	1	1	2	-	-	-	2	2	2
Microbiology(35)	-	-	-	-	-	-	-	7	5	5	6	5	5	7	5	9
Bacteriology(35)	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-
Microbiology/bacteriol(35)	3	6	12	5	6	7	5	-	-	-	-	-	-	-	-	-
Molecular biology	4	1	2	1	5	3	5	2	2	1	1	5	3	4	1	5
Neurosciences	-	-	-	-	-	-	1	2	1	1	-	3	1	2	-	1
Nutritional sciences(36)	2	4	2	5	3	7	8	3	3	4	5	7	8	5	1	2
Parasitology	1	-	-	2	-	-	1	-	2	2	-	2	2	-	-	1
Toxicology(6)	-	-	-	-	-	-	-	1	1	1	-	5	1	1	2	2
Zoology, other(37)	-	-	-	-	-	-	-	4	1	5	1	5	5	1	-	3
Zoology(37)	6	3	5	-	3	3	5	-	-	-	-	-	-	-	-	-
Biological sci, general	2	5	2	-	5	5	2	3	1	1	4	4	-	1	6	3
Biological sci, other	3	2	1	-	1	3	1	1	-	1	3	3	-	4	1	1

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS																
BLACK																
SOCIAL SCIENCES	94	121	97	90	95	100	109	91	109	108	88	82	102	108	106	122
Agricultural economics	2	2	4	2	4	7	2	-	3	6	-	3	4	5	5	2
Anthropology	13	1	5	8	10	7	7	7	10	10	4	9	6	7	4	5
Area studies	3	-	3	1	2	1	-	1	1	1	2	2	2	-	1	1
Criminology(38)	-	-	-	-	-	-	4	2	2	2	2	1	8	5	2	4
Demography(6)	-	-	-	-	-	-	-	-	-	-	1	-	-	1	1	-
Econometrics	-	1	-	-	-	-	-	1	-	1	1	-	-	1	1	1
Economics	10	19	6	9	13	16	18	15	20	14	15	14	15	11	19	23
Geography	3	3	2	2	5	2	2	3	3	1	-	4	-	3	-	2
History of science(39)	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-
International relations	2	4	4	1	1	4	6	5	2	4	3	3	2	8	8	4
Linguistics	2	6	3	3	9	2	3	4	3	2	4	2	3	4	1	5
Pol sci/government(40)	-	-	-	-	-	-	-	18	21	22	17	17	16	20	24	16
Political science(40)	15	33	27	24	16	25	24	-	-	-	-	-	-	-	-	-
Pol sci, public admin(40)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	2	4	4	7	4	8	4	10	10
Sociology	33	33	29	30	23	25	30	26	28	26	25	12	22	27	22	26
Urban studies(41)	5	9	6	6	5	4	7	4	4	8	1	6	7	5	3	7
Social sciences, general	-	6	4	1	1	1	1	1	-	1	-	1	1	2	1	3
Social sciences, other	5	4	4	3	6	6	5	2	8	6	5	2	8	5	4	13
PSYCHOLOGY	86	95	100	115	119	113	115	112	121	105	109	93	103	97	115	116
Clinical	29	40	42	40	43	55	44	47	47	50	53	45	45	45	46	45
Cognitive(6)	-	-	-	-	-	-	-	-	1	-	1	1	1	1	1	2
Comparative(42)	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Counseling(43)	10	7	9	14	9	17	17	15	26	17	17	16	18	15	28	19
Developmental(44)	5	1	4	6	12	2	10	10	4	4	-	3	6	3	7	9
Educational	5	2	6	8	7	2	3	2	6	5	1	1	8	3	5	3
Experimental(42)	3	5	5	3	2	3	4	2	3	2	1	-	-	4	2	3
Indust/organizational(45)	1	1	1	-	4	4	2	3	5	1	5	3	1	3	3	3
Physiological(42)	2	1	4	-	5	1	1	1	1	1	-	-	-	2	-	3
Quantitative(6)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Personality	4	4	1	3	-	3	1	1	1	2	1	2	2	1	1	-
Psychometrics	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
School	5	3	4	4	5	2	3	1	6	3	4	2	3	4	2	3
Social	8	8	9	14	13	9	10	15	9	11	11	8	4	5	3	9
Psychology, general	7	6	6	12	10	9	14	11	8	4	12	10	15	6	13	13
Psychology, other	6	16	9	9	9	6	6	4	4	4	3	2	-	5	4	4
TOTAL, ENGINEERING	21	15	13	20	18	19	20	29	15	34	24	25	31	33	40	55
Aerospace,aero/astronaut(46)	1	-	-	1	1	-	3	1	-	3	-	1	1	1	3	1
Agricultural	-	-	-	2	1	-	-	1	-	2	-	1	-	2	3	-
Bioengineering/biomed(47)	-	-	1	1	1	1	-	-	1	-	-	2	1	2	2	1
Chemical	2	1	1	1	1	2	1	3	2	4	3	3	6	3	7	8
Civil	3	-	3	2	1	3	-	5	-	4	3	4	1	5	1	9
Computer	-	1	1	-	2	-	-	-	1	-	-	-	1	-	1	2
Electrical/electronics(48)	-	-	-	-	-	-	-	2	3	8	4	3	6	9	7	14
Electrical(48)	8	5	2	6	6	6	4	-	-	-	-	-	-	-	-	-
Electronics(48)	1	1	-	3	-	1	-	-	-	-	-	-	-	-	-	-
Engineering mechanics	-	-	-	-	-	1	1	-	-	1	1	1	-	1	-	-
Engineering physics(49)	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	1	2	-	-	3	2
Environmental health eng(50)	1	1	1	-	-	1	2	1	-	-	1	-	-	-	-	3
Industrial	-	1	3	-	-	-	1	2	1	2	-	-	7	2	1	2
Materials science	1	-	-	-	1	-	1	1	-	-	2	2	1	-	-	2
Mechanical	1	1	-	1	2	1	2	5	2	2	2	2	1	4	5	3
Metallurgical(51)	-	-	-	-	-	-	-	4	-	2	1	2	1	-	-	-
Mining/mineral(52)	-	-	-	-	-	-	-	1	-	-	-	1	-	1	1	1
Nuclear(49)	1	1	-	-	-	1	2	-	1	1	3	-	3	-	-	-
Operations research	1	-	-	1	1	-	1	-	-	-	-	-	1	-	1	1
Petroleum(53)	-	1	-	-	1	1	1	-	-	-	1	1	1	1	2	-
Polymer(6)	-	-	-	-	-	-	-	1	-	2	-	-	-	1	1	-
Systems(54)	1	1	-	1	-	1	-	-	2	2	-	-	-	-	-	-
Engineering, general	-	-	1	1	-	-	-	-	-	-	-	-	-	-	1	1
Engineering, other	-	-	-	-	-	-	1	1	2	1	2	-	-	1	1	5
TOTAL, NON-S&E(55)	857	868	776	793	786	778	807	683	698	686	631	599	620	610	682	662
TOTAL, ALL FIELDS	1,149	1,194	1,106	1,114	1,105	1,110	1,143	1,005	1,055	1,043	949	907	966	962	1,046	1,082

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS HISPANIC																
TOTAL, S&E	131	189	213	229	213	238	269	282	295	290	342	354	394	379	459	474
TOTAL, SCIENCES	115	167	181	205	186	222	233	253	261	268	307	320	331	331	405	415
PHYSICAL SCIENCES	17	33	20	33	27	30	25	26	47	30	40	56	63	59	72	63
Physics/astronomy	6	13	6	15	12	8	9	5	14	13	15	12	15	16	15	19
Acoustics	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Astronomy(1)	-	-	-	1	2	-	-	-	1	-	1	-	2	1	1	1
Astrophysics(1)	-	-	1	1	1	2	-	-	-	-	1	-	-	1	1	-
Atomic/molecular	1	1	1	1	-	1	3	-	2	-	1	5	-	-	-	1
Elementary particle	-	2	2	3	2	2	-	1	3	2	3	-	1	3	3	6
Fluids	-	-	-	1	-	-	1	-	-	1	-	-	-	-	-	-
Nuclear(5)	1	1	-	-	1	-	-	-	2	2	-	1	1	-	2	-
Optics	1	1	-	-	-	-	-	1	-	-	4	-	1	1	-	4
Plasma	-	-	-	-	1	-	1	1	1	1	-	-	1	1	1	-
Solid state	2	2	2	3	3	3	4	-	4	4	2	3	7	6	2	4
Physics, general	1	3	-	2	1	-	-	1	-	1	2	2	-	2	2	2
Physics, other	-	2	-	3	1	-	-	1	1	2	1	1	2	1	2	-
Chemistry	11	20	14	18	15	22	16	21	33	17	25	44	48	43	57	44
Analytical	2	1	3	3	4	1	1	4	3	3	4	8	11	2	11	8
Inorganic	1	2	1	1	1	4	2	-	2	4	5	6	4	7	5	3
Nuclear	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-
Organic	3	5	5	6	7	7	5	11	12	6	8	14	11	10	11	17
Pharmaceutical	1	1	-	-	-	2	-	-	1	-	-	2	2	1	-	2
Physical	4	6	1	7	2	4	3	4	8	3	5	7	12	12	11	6
Polymer	-	1	1	-	-	-	1	1	-	-	-	-	-	2	2	-
Theoretical	-	-	1	1	-	1	-	-	-	-	-	1	-	-	2	2
Chemistry, general	-	4	2	-	-	2	3	-	5	1	3	4	7	4	15	6
Chemistry, other	-	-	-	-	1	-	1	1	1	-	-	2	1	5	-	-
EARTH, ATMOS, OCEAN SCI	-	12	5	6	4	6	7	11	2	6	5	5	8	9	13	16
Applied geology(9)	-	1	-	-	-	-	1	-	-	1	-	-	-	-	-	-
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Atmos/meteorol sci, other	-	3	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Atmospheric dynamics	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Atmospheric phys/chem	-	-	-	2	-	1	-	-	-	-	-	-	1	1	2	1
Environmental sciences(10)	-	1	1	1	-	-	1	2	-	2	-	-	1	-	1	1
Geochemistry(11)	-	-	-	1	-	1	1	1	-	-	-	1	1	-	1	-
Geology(12)	-	-	-	-	-	-	-	1	-	1	-	-	1	-	3	2
Structural geology(12)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geophysics/seismology(13)	-	2	1	-	1	1	1	-	-	2	2	1	1	3	-	3
Hydrology/water res(14)	-	-	-	1	-	-	-	2	-	-	-	-	1	-	-	-
Marine sciences(6)	-	-	-	-	-	-	-	1	-	-	-	-	1	-	1	-
Marine sciences, other(15)	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-
Meteorology(16)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Minerology, petrology(11)	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Oceanography	-	1	-	1	-	1	-	3	1	-	2	2	-	3	3	2
Paleontology	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	1
Stratigraphy, sediment	-	-	-	-	-	1	1	-	-	-	-	-	1	-	1	-
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	3
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2
Earth sciences, general(17)	-	1	2	-	1	1	-	-	-	-	-	-	-	-	-	-
Earth sciences, other(17)	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
MATHEMATICS	9	10	5	10	5	5	6	7	11	12	12	11	4	11	10	9
Algebra	1	2	-	2	1	-	3	1	-	-	2	1	-	5	-	-
Analysis/funct analysis(18)	3	2	-	1	-	-	-	-	2	1	-	1	-	1	2	1
Applied mathematics	1	2	-	2	2	1	1	1	-	5	5	3	1	-	4	1
Computing theory	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Geometry	-	-	-	-	-	1	1	1	-	1	1	-	-	2	-	-
Math probability/stat(19)	1	2	1	4	1	1	-	-	5	3	2	2	2	1	1	1
Number theory	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Operations research	-	-	1	-	-	-	-	1	-	-	-	-	-	1	1	1
Topology	-	1	1	-	-	-	-	-	2	1	-	2	-	-	-	1
Mathematics, general	1	-	-	1	1	1	1	2	2	1	2	1	1	1	1	2
Mathematics, other	-	-	2	-	-	1	-	1	-	-	-	1	-	-	1	-
COMPUTER & INFO SCI	-	-	-	2	1	-	1	-	3	6	7	4	2	4	5	11
Computer sciences	-	-	-	2	1	-	1	-	3	3	6	4	2	3	4	11
Information sci/systems(6)	-	-	-	-	-	-	-	-	-	3	1	-	-	1	1	-

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS																
HISPANIC																
AGRIC & BIOL SCI	29	29	39	44	36	56	54	49	52	71	83	77	97	90	111	108
Agricultural sciences	4	4	9	6	5	15	7	6	8	12	17	15	21	18	23	15
Agronomy	-	1	-	1	-	3	1	4	-	-	2	1	2	4	-	-
Animal breeding/genetics(21)	-	-	-	-	-	-	-	-	-	-	1	-	2	-	1	-
Animal nutrition(22)	-	-	-	-	-	-	-	-	1	2	-	3	3	2	1	-
Animal sci/nutrition(22)	-	1	-	1	1	2	-	-	-	-	-	-	-	-	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Animal sciences, other(22)	-	-	-	-	-	-	-	-	2	1	3	2	2	2	2	2
Fish/wildlife(23)	-	-	1	1	-	1	-	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	1
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2
Food sciences(24)	1	-	2	1	1	3	2	1	-	1	3	2	-	-	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	7	2
Forestry science(25)	-	-	1	1	-	1	1	-	-	-	1	1	-	-	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Horticulture science	1	1	1	-	-	2	1	-	-	1	2	-	1	1	1	1
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	1	2	-	1	3	-	1	1
Plant pathology(26)	-	-	-	-	-	-	-	-	2	1	1	-	-	3	5	-
Phytopathology(26)	1	-	2	1	1	1	1	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	1	1	1	-	1	1	1	-	-
Soil sciences(28)	1	1	-	-	1	2	-	-	1	2	2	1	-	-	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	2	1	1	1
Agriculture, general	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Agriculture, other	-	-	1	-	1	-	1	-	-	1	1	2	1	-	2	-
Biological sciences	25	25	30	38	31	41	47	43	44	59	66	62	76	72	88	93
Anatomy	-	2	-	4	-	2	1	1	3	1	-	2	1	1	2	3
Biochemistry	6	5	8	7	5	6	5	8	4	8	13	14	15	11	5	11
Biometrics/biostat	1	1	-	-	-	-	-	-	-	1	-	-	-	1	-	1
Biophysics	-	1	-	2	-	1	1	2	-	-	3	3	-	-	3	-
Botany, other(29)	-	-	-	-	-	-	-	2	2	2	1	1	2	1	2	1
Botany(29)	4	3	1	2	2	1	3	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	1	2	2	4	1	1	2	4	4
Cytology(30)	-	1	-	1	1	1	-	-	-	-	-	-	-	-	-	-
Devel bio/embryology(31)	-	-	-	1	1	-	-	-	1	-	-	-	-	-	1	3
Ecology	1	-	-	3	3	3	1	2	1	3	2	1	-	2	1	6
Endocrinology(6)	-	-	-	-	-	-	-	-	1	1	1	-	2	-	1	1
Entomology	1	2	1	2	3	3	3	-	2	4	4	-	4	1	8	2
Human/animal genetics(32)	-	-	-	-	-	-	-	2	-	1	2	-	2	1	8	3
Plant genetics(32)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Genetics(32)	-	3	-	-	1	2	2	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	1	1	2	1	3	1	1	2	1
Plant pathology(33)	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-
Pathology(33)	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	-	-	-	1	2	1	2	2	5	4	5	4	6	3	3	3
Human/animal physiol(34)	-	-	-	-	-	-	-	1	3	3	2	4	3	7	6	6
Animal physiology(34)	2	4	4	2	3	4	4	-	-	-	-	-	-	-	-	-
Plant physiology(34)	-	-	2	1	-	1	-	-	-	1	2	1	2	3	-	3
Immunology	-	-	3	2	1	2	4	3	1	2	4	2	3	4	6	6
Microbiology(35)	-	-	-	-	-	-	-	5	4	4	8	5	5	6	8	10
Microbiology/bacteriol(35)	4	2	4	1	4	6	4	-	-	-	-	-	-	-	-	-
Molecular biology	-	-	2	2	2	3	6	3	1	3	5	1	6	8	7	5
Neurosciences	-	-	-	-	-	-	1	4	1	3	1	2	3	6	4	4
Nutritional sciences(36)	1	-	3	-	1	-	2	1	-	2	3	6	3	3	3	5
Parasitology	-	-	1	1	-	1	-	-	1	1	-	-	1	1	-	-
Toxicology(6)	-	-	-	-	-	-	-	-	-	1	-	3	2	1	-	2
Zoology, other(37)	-	-	-	-	-	-	-	2	2	1	1	3	3	3	3	4
Zoology(37)	2	-	1	1	1	2	5	-	-	-	-	-	-	-	-	-
Biological sci, general	3	-	-	2	1	1	2	1	6	4	2	2	6	5	7	6
Biological sci, other	-	-	-	2	-	1	1	2	3	4	1	4	4	1	4	3

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS																
HISPANIC																
SOCIAL SCIENCES	33	43	61	61	59	59	66	66	62	74	71	72	64	65	87	91
Agricultural economics	2	2	3	1	2	2	3	4	2	3	2	2	-	3	-	3
Anthropology	9	6	8	6	3	9	6	8	5	15	14	13	14	9	12	9
Area studies	1	-	2	1	-	-	1	1	1	2	-	-	-	-	2	-
Criminology(38)	-	-	-	-	-	1	-	3	-	-	-	3	-	-	-	1
Demography(6)	-	-	-	-	-	-	-	-	-	1	-	-	1	1	-	-
Econometrics	-	-	-	-	1	-	2	-	2	-	-	-	-	1	-	1
Economics	2	3	7	10	13	12	12	8	12	14	6	13	12	12	15	12
Geography	-	3	2	1	1	2	1	2	2	3	1	2	1	-	-	2
History of science(39)	-	-	-	-	-	-	-	-	-	-	2	-	-	1	-	-
International relations	2	2	3	1	-	1	1	4	-	4	2	3	-	3	1	3
Linguistics	-	7	3	6	6	3	5	3	7	5	5	6	8	4	4	8
Pol sci/government(40)	-	-	-	-	-	-	-	11	10	6	11	10	6	5	16	12
Political science(40)	8	5	9	13	10	8	10	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	2	1	-	2	6	1	-	2	6
Sociology	6	14	13	15	16	15	18	11	17	17	14	10	16	22	27	23
Statistics	1	-	-	-	1	-	-	-	-	-	1	1	-	-	-	-
Urban studies(41)	1	-	4	2	3	3	-	3	-	2	2	-	-	-	3	4
Social sciences, general	-	-	1	-	1	1	-	-	-	-	2	1	4	1	-	1
Social sciences, other	1	1	6	5	2	2	7	6	3	2	7	2	1	3	5	6
PSYCHOLOGY	27	40	51	49	54	66	74	94	84	69	89	95	93	93	107	117
Clinical	8	19	19	24	25	30	31	45	37	24	45	39	40	51	50	51
Cognitive(6)	-	-	-	-	-	-	-	3	2	1	1	1	-	-	2	2
Comparative(42)	1	-	-	1	-	1	1	-	-	-	-	-	1	-	-	1
Counseling(43)	4	4	3	4	8	7	9	11	12	11	7	20	10	10	8	21
Developmental(44)	2	1	1	3	3	1	5	5	7	5	6	5	3	2	8	7
Educational	1	3	3	1	2	5	5	2	2	3	2	2	3	2	1	5
Experimental(42)	1	1	3	-	5	3	4	4	3	1	3	1	8	1	6	7
Indust/organizational(45)	-	3	-	2	1	1	-	1	1	1	2	3	3	1	3	5
Physiological(42)	5	2	4	1	1	1	2	-	4	1	2	4	5	1	2	-
Quantitative(6)	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-
Personality	-	-	2	2	1	-	-	-	-	-	1	1	-	1	1	-
Psychometrics	1	-	1	-	-	-	-	-	-	-	-	-	3	-	-	-
School	-	2	2	-	-	3	3	2	2	4	1	3	1	7	-	1
Social	2	-	4	4	-	4	5	10	1	4	5	6	6	-	5	3
Psychology, general	1	2	4	3	5	6	6	10	9	9	7	5	7	12	15	11
Psychology, other	1	3	5	4	3	4	3	1	4	5	6	5	3	4	6	3
TOTAL, ENGINEERING	16	22	32	24	27	16	36	29	34	22	35	34	63	48	54	59
Aerospace,aero/astronaut(46)	-	2	1	1	1	-	1	-	1	-	1	1	1	1	2	-
Agricultural	-	-	-	1	1	-	-	-	-	2	-	-	4	1	-	1
Bioengineering/biomed(47)	-	1	2	2	1	-	-	1	2	-	2	2	3	3	2	2
Ceramic	-	-	-	2	-	-	-	-	1	-	-	-	-	1	-	-
Chemical	3	5	2	3	4	1	5	6	3	2	4	11	5	8	7	11
Civil	-	2	6	2	7	4	3	7	1	7	7	1	13	8	8	5
Communications(6)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-
Computer	-	1	3	-	-	-	-	-	-	-	-	1	-	-	2	2
Electrical/electronics(48)	-	-	-	-	-	-	-	3	7	4	9	5	13	13	10	13
Electrical(48)	3	4	7	3	4	-	6	1	1	-	-	-	-	-	-	-
Electronics(48)	1	-	1	2	2	2	1	-	-	-	-	-	-	-	-	-
Engineering mechanics	2	-	-	-	1	-	1	-	-	-	2	-	2	-	-	-
Engineering physics(49)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Engineering science(6)	-	-	-	-	-	-	-	-	1	1	-	-	1	1	-	1
Environmental health eng(50)	3	-	2	1	-	3	-	1	2	-	-	-	-	1	1	-
Industrial	-	2	-	-	1	1	3	1	2	-	-	1	2	-	6	3
Materials science	-	-	-	1	-	-	2	2	2	-	2	2	5	-	1	7
Mechanical	1	2	3	2	-	3	4	2	5	3	4	5	5	3	5	9
Metallurgical(51)	-	-	2	-	1	1	1	-	2	-	-	2	-	-	2	-
Mining/mineral(52)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-
Nuclear(49)	-	-	1	2	-	-	2	2	1	1	-	1	2	2	3	2
Ocean(6)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	1
Operations research	-	-	1	2	2	-	1	2	-	1	-	1	1	1	1	1
Petroleum(53)	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1	-
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Systems(54)	2	1	-	-	-	1	1	-	3	-	2	-	-	1	-	-
Engineering, general	-	-	1	-	-	-	-	-	-	-	-	-	4	1	-	-
Engineering, other	1	1	-	-	1	-	4	-	-	1	2	-	1	1	-	1
TOTAL, NON-S&E(55)	232	285	325	310	272	288	345	326	312	344	336	355	302	315	376	369
TOTAL, ALL FIELDS	363	474	538	539	485	526	614	608	607	634	678	709	696	694	835	843

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate 1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS																
WHITE																
TOTAL, S&E	13,207	12,658	12,021	12,123	12,146	12,388	12,330	12,478	12,246	12,004	12,014	11,920	12,326	12,365	13,030	12,824
TOTAL, SCIENCES	11,683	11,229	10,852	10,966	11,003	11,295	11,230	11,350	11,089	10,816	10,660	10,462	10,672	10,639	11,194	11,036
PHYSICAL SCIENCES	2,032	1,883	1,750	1,787	1,661	1,757	1,859	1,917	1,888	1,900	1,858	1,942	1,927	1,817	1,986	1,914
Physics/astronomy	843	747	710	694	622	635	645	655	677	657	650	675	670	629	703	704
Acoustics	9	6	11	10	18	9	7	11	12	7	11	13	11	11	10	7
Astronomy(1)	63	52	55	43	40	39	43	43	32	33	38	32	42	31	35	35
Astrophysics(1)	56	42	56	42	51	50	38	52	46	44	41	37	51	43	51	48
Atomic/molecular	84	75	65	55	45	45	62	41	53	40	40	45	52	40	56	45
Electron(2)	-	-	-	-	-	-	-	1	-	3	1	6	1	2	-	-
Electromagnetism(3)	7	6	8	4	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	90	93	86	78	75	80	74	84	84	94	86	92	98	84	88	104
Fluids	16	11	8	11	8	8	7	11	7	9	2	9	10	9	11	11
Mechanics(4)	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(5)	69	64	50	69	49	39	36	62	50	54	50	44	48	53	41	38
Optics	39	23	24	33	29	34	33	27	36	34	37	36	41	39	42	50
Plasma	58	51	50	39	45	46	47	47	52	36	41	46	42	37	23	31
Polymer(6)	-	-	-	-	-	-	-	5	4	5	6	9	8	2	4	6
Solid state	191	165	162	152	128	163	161	145	162	149	154	158	131	137	145	156
Thermal(8)	2	3	7	5	5	3	-	-	-	-	-	-	-	-	-	-
Physics, general	72	75	64	81	60	53	64	57	71	78	65	82	63	75	117	82
Physics, other	84	81	64	72	69	66	73	69	68	71	78	66	72	66	80	91
Chemistry	1,189	1,136	1,040	1,093	1,039	1,122	1,214	1,262	1,211	1,243	1,208	1,267	1,257	1,188	1,283	1,210
Agricultural/food	7	5	3	6	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	124	145	134	166	141	189	162	214	175	230	194	233	216	214	212	202
Inorganic	187	158	150	155	146	144	180	176	190	187	194	176	187	177	179	165
Nuclear	18	19	9	8	12	9	14	9	8	5	13	11	4	6	9	13
Organic	379	375	330	332	331	377	389	376	377	342	354	344	355	336	317	315
Pharmaceutical	34	32	29	27	24	36	35	47	36	36	36	39	43	43	26	49
Physical	258	243	212	238	208	206	253	230	242	224	205	201	203	189	203	199
Polymer	24	34	28	37	26	25	25	36	35	39	39	50	34	38	40	52
Theoretical	41	27	35	38	38	25	24	35	28	40	26	34	36	27	36	31
Chemistry, general	69	55	59	53	63	60	76	84	65	81	84	120	116	92	220	137
Chemistry, other	48	43	51	33	50	51	56	55	55	59	63	59	63	66	41	47
EARTH, ATMOS, OCEAN SCI	489	517	466	500	485	448	510	453	461	430	413	408	500	509	514	557
Applied geology(9)	15	15	12	15	21	16	16	5	6	5	4	2	6	5	5	1
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	11	4	4	5	7	9	8	11	10
Atmos/meteorol sci, other	13	28	25	27	33	18	19	17	8	6	5	5	8	10	1	8
Atmospheric dynamics	9	25	15	15	13	21	16	9	14	13	9	9	17	8	10	8
Atmospheric phys/chem	12	14	17	12	15	12	15	17	8	14	15	15	10	8	6	10
Environmental sciences(10)	52	42	33	44	32	42	42	35	36	30	28	22	43	52	39	23
Geochemistry(11)	38	46	43	46	42	44	40	41	36	36	26	18	30	28	39	51
Geology(12)	-	-	-	-	-	-	-	75	95	78	96	79	105	125	127	142
Structural geology(12)	20	16	25	23	18	27	24	-	-	-	-	-	-	-	-	-
Geomorph/glacial geology	27	21	20	14	12	12	19	9	8	12	9	16	8	9	12	17
Geophysics/seismology(13)	27	50	38	59	46	50	53	52	45	56	51	39	47	50	54	66
Geophysics(13)	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	11	13	15	11	20	12	13	9	12	7	10	11	13	14	9	12
Marine sciences(6)	-	-	-	-	-	-	-	15	16	20	18	27	21	19	27	15
Marine sciences, other(15)	-	8	26	28	21	27	33	-	-	-	-	-	-	-	-	-
Meteorology(16)	14	-	-	-	-	-	-	11	20	15	13	8	18	18	12	17
Minerology, petrology(11)	43	50	30	28	42	26	37	19	26	24	15	20	16	29	23	31
Oceanography	70	88	77	72	72	56	77	64	57	48	51	46	52	53	39	57
Paleontology	37	26	29	33	20	18	22	15	29	20	12	15	22	13	19	18
Stratigraphy, sediment	47	31	26	28	36	36	43	19	14	20	13	18	25	19	22	23
Geological sciences, gen(17)	-	-	-	-	-	-	-	6	6	8	6	12	4	10	18	16
Geological sciences, oth(17)	-	-	-	-	-	-	-	15	18	8	11	24	26	20	21	21
Earth sciences, general(17)	19	29	23	27	26	20	23	-	-	-	-	-	-	-	-	-
Earth sciences, other(17)	17	15	12	18	16	11	18	-	-	-	-	-	-	-	-	-
Physical sciences, other(6)	-	-	-	-	-	-	-	9	3	6	16	14	20	11	20	11
MATHEMATICS	698	649	563	505	496	448	437	395	380	350	343	319	332	369	372	410
Algebra	89	70	70	68	61	39	42	36	38	30	17	27	32	21	21	41
Analysis/funct analysis(18)	107	105	82	71	66	67	58	44	36	51	43	37	44	46	39	55
Applied mathematics	70	79	73	68	67	73	71	85	70	51	64	64	68	73	81	78
Computing theory	117	80	42	22	11	11	7	8	5	12	5	8	8	9	8	12
Geometry	13	16	14	20	28	23	20	23	16	18	21	11	19	23	17	22
Logic	26	12	16	17	19	17	14	16	15	21	17	9	10	5	12	16
Math probability/stat(19)	102	108	109	104	88	95	95	82	92	67	74	58	60	82	56	68
Number theory	21	28	16	13	20	19	22	9	19	10	15	10	8	17	14	16
Operations research	25	26	31	25	22	17	18	9	13	13	11	9	16	10	11	8
Topology	52	51	41	47	47	40	38	31	26	24	20	26	15	22	33	32
Mathematics, general	42	40	41	29	37	29	30	24	30	28	35	36	33	33	43	32
Mathematics, other	34	34	28	21	30	18	22	28	20	25	21	24	19	28	37	30
COMPUTER & INFO SCI	-	22	77	153	143	162	136	174	163	177	193	229	265	319	339	348
Computer sciences	-	22	77	153	143	162	136	162	142	141	171	197	227	261	286	308
Information sci/systems(6)	-	-	-	-	-	-	-	12	21	36	22	32	38	58	53	40

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS																
WHITE																
AGRIC & BIOL SCI	3,276	3,198	3,188	3,333	3,511	3,566	3,678	3,608	3,646	3,572	3,445	3,312	3,484	3,475	3,578	3,522
Agricultural sciences	487	458	486	503	539	551	616	613	602	659	557	554	518	571	601	534
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Agronomy	70	62	75	66	77	105	91	74	68	90	85	81	66	73	76	55
Animal breeding/genetics(21)	14	16	17	20	18	13	19	17	17	17	13	12	13	12	15	11
Animal nutrition(22)	-	-	-	-	-	-	-	43	46	50	46	59	34	48	40	38
Animal sci/nutrition(22)	83	68	54	64	76	77	90	-	-	-	-	-	-	-	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	8	8	11	10
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	4	4	8	5
Animal sciences, other(22)	-	-	-	-	-	-	-	53	52	55	54	47	50	58	41	54
Fish/wildlife(23)	46	57	48	57	58	58	56	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	23	34	33	19	23	23	17	27	23
Wildlife management(23)	-	-	-	-	-	-	-	23	26	32	17	21	2	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	26	41	40	43
Food sciences(24)	54	50	55	59	49	39	55	62	51	64	47	47	2	1	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	3	1	2	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	38	59	45	47
Forestry science(25)	56	47	53	58	60	63	55	62	79	76	55	67	14	-	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	17	16	19	9
Forest engineering(25)	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	1
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	10	16	8	11
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	4	5	5	6
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	3	6	9	11
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	13	25	25	26
Horticulture science	26	33	36	44	41	40	61	41	48	42	35	42	32	46	57	39
Plant breeding/genetics(26)	-	-	-	-	-	-	-	50	53	56	41	47	46	38	53	35
Plant pathology(26)	-	-	-	-	-	-	-	65	28	58	47	43	26	28	32	36
Phytopathology(26)	52	53	54	57	73	65	86	-	-	-	-	-	-	-	-	-
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	-	-	-	1	3	3	1
Plant sciences, other(26)	-	-	-	-	-	-	-	9	12	11	15	7	12	6	13	10
Soil sciences(28)	33	27	54	27	37	39	49	47	50	49	54	34	10	-	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	22	17	16	15
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	23	33	43	36
Agriculture, general	4	-	1	1	2	1	1	3	1	1	2	1	-	3	-	-
Agriculture, other	49	45	39	50	48	51	53	41	37	25	27	23	14	6	13	12
Biological sciences	2,789	2,740	2,702	2,830	2,972	3,015	3,062	2,995	3,044	2,913	2,888	2,758	2,966	2,904	2,977	2,988
Anatomy	117	94	124	124	125	139	131	88	83	112	70	72	73	63	50	54
Biochemistry	462	471	442	458	517	510	524	515	471	441	419	390	413	448	459	467
Biometrics/biostat	32	37	31	32	31	36	46	31	30	25	20	22	29	26	30	28
Biophysics	92	95	78	91	73	78	64	61	65	54	50	54	62	53	47	45
Botany, other(29)	-	-	-	-	-	-	-	101	103	88	95	79	86	86	72	76
Botany(29)	148	133	112	110	116	116	117	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	97	99	81	99	111	91	105	104	104
Cytology(30)	35	31	28	28	33	38	33	-	-	-	-	-	-	-	-	-
Devel bio/embryology(31)	9	18	14	8	14	15	8	11	10	15	9	3	6	9	19	30
Ecology	125	143	157	148	145	170	155	160	182	172	151	129	127	127	137	150
Endocrinology(6)	-	-	-	-	-	-	-	21	21	12	10	14	13	12	17	21
Entomology	109	105	109	112	111	97	114	102	103	128	124	83	97	104	100	89
Human/animal genetics(32)	-	-	-	-	-	-	-	82	67	78	76	87	83	76	117	108
Plant genetics(32)	-	-	-	-	-	-	-	10	17	20	16	22	13	9	20	13
Genetics(32)	92	114	98	110	118	128	144	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	65	66	90	66	89	84	77	66	79
Plant pathology(33)	-	-	-	-	-	-	-	22	21	24	18	23	23	19	21	22
Pathology(33)	73	71	78	67	84	77	78	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	159	164	163	175	204	227	221	184	184	179	186	171	193	175	171	171
Human/animal physiol(34)	-	-	-	-	-	-	-	206	193	190	193	186	165	206	176	190
Animal physiology(34)	246	263	249	264	281	283	252	-	-	-	-	-	-	-	-	-
Plant physiology(34)	45	27	30	39	39	49	45	50	53	43	40	41	46	33	37	33
Hydrobiology	13	14	3	8	-	-	-	-	-	-	-	-	-	-	-	-
Immunology	69	81	74	113	95	123	118	124	108	98	111	102	143	117	114	121
Microbiology(35)	-	-	-	-	-	-	-	247	271	222	240	211	258	235	217	239
Bacteriology(35)	-	-	-	-	-	-	-	7	9	13	8	10	5	9	12	7
Microbiology/bacteriol(35)	283	251	256	270	283	270	241	-	-	-	-	-	-	-	-	-
Molecular biology	134	101	133	107	138	155	175	184	237	218	237	213	267	282	300	305
Neurosciences	-	-	-	-	-	-	105	110	120	133	101	125	125	142	144	167
Nutritional sciences(36)	54	43	50	74	66	61	77	75	74	72	80	93	75	74	73	59
Parasitology	17	14	9	11	16	12	9	7	23	14	19	12	13	12	8	12
Toxicology(6)	-	-	-	-	-	-	-	52	86	83	94	94	86	92	69	64
Zoology, other(37)	-	-	-	-	-	-	-	169	137	115	127	106	129	103	102	103
Zoology(37)	223	219	203	210	199	168	166	-	-	-	-	-	-	-	-	-
Biological sci, general	125	134	126	135	153	139	138	125	122	128	134	137	155	133	203	151
Biological sci, other	137	117	135	136	131	124	101	89	89	65	95	79	106	77	92	80

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS																
WHITE																
SOCIAL SCIENCES	2,647	2,419	2,284	2,138	2,145	2,065	1,972	2,020	1,868	1,797	1,861	1,736	1,719	1,697	1,767	1,747
Agricultural economics	85	79	79	63	88	84	91	77	68	72	77	64	78	75	65	70
Anthropology	338	315	309	289	301	284	268	306	257	260	295	255	240	236	253	264
Area studies	18	14	15	20	16	10	14	12	11	9	7	10	10	8	13	7
Criminology(38)	-	-	-	-	26	33	30	38	29	27	21	18	22	23	35	18
Demography(6)	-	-	-	-	-	-	-	13	8	9	9	10	7	12	7	11
Econometrics	16	12	12	15	13	9	11	11	14	15	11	10	7	7	8	7
Economics	567	522	485	464	444	477	410	478	419	406	449	402	393	406	382	331
Geography	124	112	112	95	88	71	65	83	75	77	71	72	84	62	88	66
History of science(39)	24	27	23	19	19	19	24	12	20	17	14	21	21	15	18	17
International relations	83	66	59	57	47	55	36	45	47	46	40	47	41	48	49	52
Linguistics	105	118	102	87	110	105	109	94	83	99	96	99	77	95	78	111
Pol sci/government(40)	-	-	-	-	-	-	-	266	266	236	247	243	215	245	286	264
Political science(40)	479	448	453	364	382	305	311	-	-	-	-	-	-	-	-	-
Pol sci, public admin(40)	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	49	41	55	55	52	49	59	45	61
Sociology	566	556	454	465	453	446	414	377	374	323	329	285	282	245	251	272
Statistics	18	15	19	9	17	17	16	16	13	17	23	15	17	18	23	6
Urban studies(41)	66	45	48	53	44	45	50	31	47	37	23	31	41	24	29	36
Social sciences, general	28	16	17	23	22	14	23	12	7	7	19	15	10	15	12	20
Social sciences, other	105	74	97	115	75	91	100	100	89	85	75	87	125	104	125	134
PSYCHOLOGY	2,541	2,541	2,524	2,550	2,562	2,849	2,638	2,783	2,683	2,590	2,547	2,516	2,445	2,453	2,638	2,538
Clinical	810	837	882	870	928	1,091	1,014	1,044	1,015	1,004	952	964	877	955	1,066	1,045
Cognitive(6)	-	-	-	-	-	-	-	56	64	69	60	67	63	65	61	75
Comparative(42)	24	21	19	17	7	10	10	9	13	11	14	9	6	6	7	6
Counseling(43)	243	235	240	274	262	307	302	381	405	380	400	420	421	436	411	421
Developmental(44)	173	186	187	194	175	188	166	191	177	151	163	173	155	130	132	124
Educational	109	120	119	132	111	159	117	131	172	108	91	72	84	76	82	81
Experimental(42)	321	299	270	258	272	258	213	178	153	147	128	133	114	127	113	108
Indust/organizational(45)	62	72	68	80	56	75	78	82	95	93	98	94	104	90	105	123
Physiological(42)	116	116	104	95	94	92	81	80	62	70	65	56	70	55	41	36
Quantitative(6)	-	-	-	-	-	-	-	13	16	12	21	12	11	6	12	5
Personality	52	56	31	31	35	43	30	30	22	18	14	21	15	21	17	13
Psychometrics	22	15	11	19	18	24	8	10	6	7	11	8	7	6	5	6
School	134	134	112	112	167	120	153	114	74	80	102	83	101	86	78	70
Social	168	177	170	182	165	153	145	148	128	140	110	108	121	98	117	123
Psychology, general	153	156	188	122	120	168	151	181	147	151	169	163	196	180	250	175
Psychology, other	154	117	123	164	152	161	170	135	134	149	149	133	100	116	141	127
TOTAL, ENGINEERING	1,524	1,429	1,169	1,157	1,143	1,093	1,100	1,128	1,157	1,188	1,354	1,458	1,654	1,726	1,836	1,788
Aerospace,aero/astronaut(46)	81	59	44	29	33	46	32	40	47	53	40	59	66	70	74	88
Agricultural	22	16	21	20	23	17	22	20	25	21	25	39	38	48	49	26
Bioengineering/biomed(47)	60	55	51	50	47	46	47	47	44	45	43	45	68	72	71	82
Ceramic	12	23	20	14	12	13	11	13	15	11	15	25	13	16	23	28
Chemical	143	150	120	131	116	122	123	152	150	190	205	256	299	321	284	290
Civil	121	120	87	90	88	100	106	118	128	114	134	142	164	169	173	132
Communications(6)	-	-	-	-	-	-	-	11	7	12	9	6	9	13	8	7
Computer	57	73	38	32	28	30	22	36	26	12	30	21	21	37	35	48
Electrical/electronics(48)	-	-	-	-	-	-	-	175	229	234	280	256	333	355	406	413
Electrical(48)	287	237	191	215	197	182	180	30	2	1	-	-	-	-	-	-
Electronics(48)	46	44	26	30	37	41	38	9	-	-	-	-	-	-	-	-
Engineering mechanics	59	56	40	34	39	34	53	28	41	27	38	44	34	36	31	28
Engineering physics(49)	17	15	12	12	11	12	11	6	7	6	10	13	5	10	7	12
Engineering science(6)	-	-	-	-	-	-	-	14	9	13	15	12	15	10	14	16
Environmental health eng(50)	44	47	40	45	51	46	36	28	33	16	18	16	19	22	23	21
Fuel tech/petro eng(9)	2	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	37	37	32	41	35	33	37	33	27	28	38	47	30	44	54	41
Materials science	54	61	69	53	66	51	58	64	62	81	74	100	111	101	110	127
Mechanical	179	154	143	139	128	111	149	118	113	149	172	186	219	205	255	230
Metallurgical(51)	51	53	40	40	48	29	32	31	27	37	24	31	35	34	38	23
Mining/mineral(52)	2	1	4	2	1	5	4	8	4	7	8	10	5	11	12	6
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	3	2	6	4	2	2	2	1
Nuclear(49)	81	63	64	54	55	55	52	35	58	35	37	28	52	31	35	34
Ocean(6)	-	-	-	-	-	-	-	4	4	5	8	4	5	7	2	2
Operations research	57	48	43	36	38	38	22	19	31	21	28	26	23	28	15	27
Petroleum(53)	7	5	3	5	10	3	7	3	6	6	5	5	9	7	17	10
Polymer(6)	-	-	-	-	-	-	-	7	7	15	17	5	9	17	16	14
Systems(54)	43	40	32	41	34	32	20	26	17	18	14	21	19	14	21	20
Engineering, general	17	21	14	15	18	12	8	9	5	3	18	24	20	16	18	14
Engineering, other	45	50	35	27	28	35	30	44	30	26	43	33	31	30	43	48
TOTAL, NON-S&E(55)	11,736	10,996	10,321	10,273	10,316	10,082	9,813	9,767	9,618	9,293	9,210	9,196	9,130	9,204	9,832	9,780
TOTAL, ALL FIELDS	24,943	23,654	22,342	22,396	22,462	22,470	22,143	22,245	21,864	21,297	21,224	21,116	21,456	21,569	22,862	22,604

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS UNKNOWN RACE																
TOTAL, S&E	747	678	902	891	791	632	408	413	382	376	323	350	326	306	303	251
TOTAL, SCIENCES	638	595	804	784	706	578	348	365	328	308	278	288	263	251	254	202
PHYSICAL SCIENCES	137	148	171	179	164	142	66	74	73	68	73	59	70	47	63	41
Physics/astronomy	81	82	85	90	82	69	30	35	25	33	24	25	35	22	33	24
Acoustics	-	2	1	-	-	1	1	-	-	-	1	-	-	-	1	-
Astronomy(1)	4	7	8	5	3	5	1	2	-	3	3	-	4	2	-	-
Astrophysics(1)	3	3	4	5	6	2	4	4	2	2	1	1	-	-	2	2
Atomic/molecular	8	4	6	5	12	4	-	2	2	1	2	3	1	2	1	2
Electromagnetism(3)	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	5	3	12	11	7	11	3	5	1	1	3	5	4	1	1	4
Fluids	1	-	-	1	2	-	-	1	1	1	-	2	-	-	-	-
Nuclear(5)	-	7	8	6	4	7	-	3	2	6	1	1	3	1	3	1
Optics	2	1	-	1	-	3	-	-	1	-	-	-	1	3	4	1
Plasma	4	4	6	4	2	4	2	2	1	1	3	-	2	1	1	3
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-
Solid state	19	18	13	19	13	12	4	5	4	5	3	4	6	5	7	7
Thermal(8)	1	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Physics, general	24	27	19	24	29	13	10	10	9	9	6	5	12	5	10	4
Physics, other	8	5	7	8	4	7	5	1	2	4	1	3	2	1	3	-
Chemistry	56	66	86	89	82	73	36	39	48	35	49	34	35	25	30	17
Agricultural/food	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	3	6	9	9	9	9	1	3	4	3	3	2	2	5	3	2
Inorganic	6	5	13	11	5	8	6	6	7	5	8	3	3	3	-	2
Nuclear	-	1	1	3	-	1	-	1	1	-	2	-	-	-	-	-
Organic	16	15	22	24	18	11	15	7	8	5	16	11	12	6	7	4
Pharmaceutical	3	1	2	3	2	2	-	-	3	2	2	-	1	1	1	-
Physical	8	14	15	14	13	14	4	5	10	9	5	8	7	1	6	3
Polymer	-	1	2	3	5	-	-	-	1	-	2	3	2	-	1	-
Theoretical	1	1	1	-	2	-	-	1	2	1	1	-	-	1	1	-
Chemistry, general	15	19	19	12	25	26	8	12	11	8	10	4	6	8	10	5
Chemistry, other	3	3	2	8	3	2	2	4	1	2	-	3	2	-	1	1
EARTH, ATMOS, OCEAN SCI	28	28	40	32	24	16	10	20	14	12	11	17	14	8	10	14
Applied geology(9)	1	1	2	1	1	-	-	-	-	1	-	-	-	-	-	-
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	1
Atmos/meteorol sci, other	-	2	1	2	1	-	1	1	-	-	-	2	-	1	-	-
Atmospheric dynamics	1	-	2	2	-	-	-	-	-	-	-	-	-	-	-	1
Atmospheric phys/chem	1	-	-	-	1	-	1	-	1	-	-	-	-	-	-	1
Environmental sciences(10)	2	3	3	2	2	-	-	-	1	-	-	-	1	-	1	-
Geochemistry(11)	2	4	3	2	-	1	-	2	-	1	2	2	3	-	4	2
Geology(12)	-	-	-	-	-	-	-	5	3	4	3	2	3	1	1	4
Structural geology(12)	1	2	1	-	1	-	-	-	-	-	-	-	-	-	-	-
Geomorph/glacial geology	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Geophysics/seismology(13)	4	-	1	6	1	3	1	1	3	1	-	1	2	2	-	1
Hydrology/water res(14)	-	1	2	4	1	-	1	-	-	-	1	-	-	-	-	-
Marine sciences(6)	-	-	-	-	-	-	-	-	1	-	1	4	-	-	-	-
Marine sciences, other(15)	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-
Meteorology(16)	-	-	-	-	-	-	-	-	1	-	-	1	1	-	1	-
Minerology, petrology(11)	2	2	4	2	2	1	1	1	1	1	-	-	-	1	-	1
Oceanography	6	5	6	3	1	4	1	1	-	2	2	1	1	2	1	1
Paleontology	3	-	-	1	-	1	1	2	2	-	-	-	-	-	-	1
Stratigraphy, sediment	1	1	3	2	2	-	-	1	-	-	-	2	1	1	-	-
Geological sciences, gen(17)	-	-	-	-	-	-	-	2	1	-	1	1	-	-	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	2	-	-	-	-	1	-	-	1
Earth sciences, general(17)	2	3	8	3	9	5	1	-	-	-	-	-	-	-	-	-
Earth sciences, other(17)	1	3	2	1	1	1	2	-	-	-	-	-	-	-	-	-
Physical sciences, other(6)	-	-	-	-	-	-	-	1	-	1	1	1	1	-	1	1
MATHEMATICS	42	32	41	31	27	22	17	18	15	16	12	14	11	16	8	7
Algebra	2	1	2	3	3	1	1	1	1	2	3	2	-	3	1	1
Analysis/funct analysis(18)	1	3	6	7	3	1	3	2	1	2	1	2	2	2	-	1
Applied mathematics	3	4	3	3	6	5	4	1	2	2	5	-	1	4	3	-
Computing theory	5	5	5	-	-	-	-	1	2	1	-	-	-	-	1	-
Geometry	2	1	4	1	-	1	-	-	-	1	1	-	1	1	-	1
Logic	1	1	1	1	3	-	-	1	-	1	-	-	1	1	-	-
Math probability/stat(19)	5	2	4	4	3	3	2	3	3	-	1	2	3	1	-	2
Number theory	-	-	-	1	1	1	2	1	1	1	-	-	-	-	-	-
Operations research	3	1	-	2	2	-	1	-	1	-	1	1	1	2	-	-
Topology	3	3	5	2	1	4	2	1	2	-	-	2	1	-	-	-
Mathematics, general	15	10	11	6	4	5	1	6	1	4	-	5	1	1	3	2
Mathematics, other	2	1	-	1	1	1	1	1	1	2	-	-	-	1	-	-
COMPUTER & INFO SCI	-	3	9	9	16	8	4	9	6	10	11	11	12	18	10	8
Computer sciences	-	3	9	9	16	8	4	8	4	7	9	10	10	16	9	6
Information sci/systems(6)	-	-	-	-	-	-	-	1	2	3	2	1	2	2	1	2

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS																
UNKNOWN RACE																
AGRIC & BIOL SCI	160	138	219	223	226	179	124	92	104	78	70	90	71	85	74	66
Agricultural sciences	16	15	28	32	25	26	14	20	11	11	15	10	15	24	12	14
Agronomy	3	4	5	7	5	2	4	3	1	-	1	1	2	5	2	1
Animal breeding/genetics(21)	-	1	-	-	1	1	-	-	1	1	1	1	-	-	-	-
Animal nutrition(22)	-	-	-	-	-	-	-	-	-	1	1	1	-	1	-	-
Animal sci/nutrition(22)	4	2	3	8	6	3	4	-	-	-	-	-	-	-	-	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Animal sciences, other(22)	-	-	-	-	-	-	-	1	1	5	-	-	3	1	1	1
Fish/wildlife(23)	3	1	1	3	1	3	1	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	1
Wildlife management(23)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Food sciences(24)	2	2	4	2	3	4	-	8	1	-	1	2	-	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	3	2	-	1
Forestry science(25)	-	2	7	3	1	1	2	2	2	2	2	1	-	-	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2
Renewable natrl rsrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-
Horticulture science	1	2	2	2	1	2	1	2	-	-	1	1	-	2	3	3
Plant breeding/genetics(26)	-	-	-	-	-	-	-	1	1	-	2	1	1	2	2	1
Plant pathology(26)	-	-	-	-	-	-	-	1	1	1	2	1	-	1	1	-
Phytopathology(26)	1	-	4	1	3	2	1	-	-	-	-	-	-	-	-	-
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
Soil sciences(28)	-	1	1	4	3	3	-	1	2	-	3	-	-	-	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	4	1	-	2
Agriculture, general	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Agriculture, other	2	-	-	2	1	5	1	-	-	1	-	1	1	-	-	-
Biological sciences	144	123	191	191	201	153	110	72	93	67	55	80	56	61	62	52
Anatomy	7	4	5	8	6	3	5	4	1	1	-	3	1	1	3	1
Biochemistry	19	20	26	27	43	23	15	3	11	9	9	10	6	11	10	7
Biometrics/biostat	1	1	3	2	-	2	-	-	1	2	1	1	-	2	-	3
Biophysics	5	8	8	12	10	3	4	2	5	-	3	1	3	2	3	2
Botany, other(29)	-	-	-	-	-	-	-	1	5	2	1	-	-	1	1	1
Botany(29)	5	5	4	7	5	6	3	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	3	3	2	2	-	2	3	1	1
Cytology(30)	5	1	1	5	4	2	-	-	-	-	-	-	-	-	-	-
Devel bio/embryology(31)	-	-	-	2	1	-	-	-	-	-	-	1	-	-	-	1
Ecology	6	6	1	12	8	8	6	3	4	1	1	3	1	2	5	3
Endocrinology(6)	-	-	-	-	-	-	-	2	-	-	-	-	-	-	1	-
Entomology	4	6	1	3	6	5	6	1	5	2	2	1	-	-	2	3
Human/animal genetics(32)	-	-	-	-	-	-	-	1	1	5	2	2	2	1	1	2
Plant genetics(32)	-	-	-	-	-	-	-	-	1	1	-	-	-	1	-	-
Genetics(32)	4	4	7	3	4	5	4	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	4	1	-	1	3	2	2	1	2
Plant pathology(33)	-	-	-	-	-	-	-	3	-	-	-	-	-	-	1	2
Pathology(33)	7	6	5	4	6	4	-	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	10	4	19	14	14	12	13	1	5	7	5	6	4	3	4	4
Human/animal physiol(34)	-	-	-	-	-	-	-	7	6	3	4	7	5	6	5	-
Animal physiology(34)	6	10	19	10	28	11	6	-	-	-	-	-	-	-	-	-
Plant physiology(34)	2	2	3	1	2	4	-	1	3	1	-	4	2	2	-	1
Hydrobiology	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Immunology	4	2	3	8	9	3	4	4	2	5	1	4	2	1	1	2
Microbiology(35)	-	-	-	-	-	-	-	2	7	1	3	7	5	2	2	2
Microbiology/bacteriol(35)	14	13	23	21	16	16	13	-	-	-	-	-	-	-	-	-
Molecular biology	4	5	13	9	12	10	2	10	2	4	4	10	3	7	4	7
Neurosciences	-	-	-	-	-	-	3	6	3	1	5	3	4	3	4	5
Nutritional sciences(36)	2	3	7	4	2	8	1	1	4	5	3	1	-	2	2	-
Parasitology	-	-	-	1	-	1	-	-	1	-	-	-	-	-	-	-
Toxicology(6)	-	-	-	-	-	-	-	-	3	-	1	1	3	2	1	1
Zoology, other(37)	-	-	-	-	-	-	-	1	4	1	1	4	3	1	2	-
Zoology(37)	10	10	7	19	8	5	4	-	-	-	-	-	-	-	-	-
Biological sci, general	23	11	26	11	8	16	14	7	6	13	5	6	7	5	6	-
Biological sci, other	6	2	10	7	9	6	7	5	9	1	1	2	1	1	2	2

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
U.S. CITIZENS & NON-U.S. PERMANENT VISAS UNKNOWN RACE																
SOCIAL SCIENCES	183	143	172	175	131	131	78	86	67	78	65	58	52	48	38	50
Agricultural economics	7	2	2	6	7	5	4	3	4	4	2	3	2	4	1	2
Anthropology	24	22	27	34	23	25	10	10	10	16	9	14	9	12	2	6
Area studies	2	2	-	-	1	1	1	1	2	1	-	-	-	2	-	2
Criminology(38)	-	-	-	-	-	-	1	1	1	-	-	-	1	1	1	1
Demography(6)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Econometrics	3	3	1	1	1	-	-	-	1	-	-	-	-	-	-	2
Economics	42	28	38	50	30	37	16	15	11	20	18	12	10	11	8	12
Geography	4	10	9	5	6	6	4	5	-	1	1	2	3	1	1	2
History of science(39)	5	1	-	6	2	3	1	-	1	1	-	-	-	-	1	2
International relations	5	5	4	-	4	3	3	4	4	5	2	2	-	-	2	1
Linguistics	7	6	13	5	7	5	6	4	5	4	3	3	2	2	3	2
Pol sci/government(40)	-	-	-	-	-	-	-	18	19	17	10	7	10	7	9	6
Political science(40)	29	28	36	26	22	20	16	-	-	-	-	-	-	-	-	-
Pol sci, public admin(40)	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	2	1	-	1	2	2	-	1	1
Sociology	32	29	30	29	20	18	12	12	3	6	12	8	7	4	5	8
Statistics	2	1	1	1	-	1	-	1	1	-	-	-	-	1	1	-
Urban studies(41)	3	1	2	2	4	2	1	5	1	1	3	3	2	-	-	1
Social sciences, general	2	-	4	2	1	-	-	-	-	1	1	1	-	-	1	-
Social sciences, other	11	5	5	8	3	5	3	5	3	-	3	1	4	3	2	2
PSYCHOLOGY	88	103	152	135	118	80	49	66	49	46	36	39	33	29	51	16
Clinical	18	15	27	43	31	29	12	25	14	16	12	12	9	11	29	6
Cognitive(6)	-	-	-	-	-	-	-	1	-	-	2	1	4	1	-	2
Comparative(42)	1	-	-	2	1	-	-	1	-	-	-	-	-	-	-	-
Counseling(43)	1	10	13	12	10	3	3	6	4	4	2	6	7	4	1	2
Developmental(44)	1	6	8	9	9	5	-	2	3	2	1	5	-	-	1	1
Educational	5	1	7	8	6	5	5	6	3	1	1	1	1	-	2	2
Experimental(42)	12	13	10	14	12	3	1	4	1	2	2	1	-	1	2	1
Indust/organizational(45)	1	1	1	2	3	3	-	1	-	2	-	2	2	3	2	-
Physiological(42)	5	5	5	-	3	1	-	-	2	1	4	2	2	-	-	-
Personality	1	2	4	4	4	1	3	-	-	1	-	-	-	-	-	-
Psychometrics	1	-	1	1	-	-	-	-	-	1	-	-	-	-	-	-
School	2	2	6	1	2	4	1	1	1	2	1	-	-	1	1	-
Social	8	6	11	4	2	3	2	2	4	-	1	-	2	4	2	-
Psychology, general	30	37	50	25	26	22	17	15	11	12	9	7	3	4	9	1
Psychology, other	2	5	9	10	9	1	5	2	6	2	1	2	3	-	2	1
TOTAL, ENGINEERING	109	83	98	107	85	54	60	48	54	68	45	62	63	55	49	49
Aerospace,aero/astronaut(46)	4	1	1	4	2	4	1	3	2	2	1	1	-	1	1	2
Agricultural	-	-	-	2	3	1	-	-	2	-	2	1	2	2	1	1
Bioengineering/biomed(47)	1	4	5	2	7	4	2	5	2	2	1	2	4	-	1	3
Ceramic	1	-	-	2	1	-	-	-	-	1	-	1	-	-	2	1
Chemical	17	12	7	9	8	4	7	7	8	13	4	8	9	7	5	7
Civil	10	9	3	5	5	5	3	3	3	3	3	5	9	6	5	1
Communications(6)	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-
Computer	8	2	2	3	-	-	3	-	-	-	-	3	2	1	2	4
Electrical/electronics(48)	-	-	-	-	-	-	-	9	13	18	5	17	14	17	11	12
Electrical(48)	19	20	24	25	19	13	15	-	-	-	-	-	-	-	-	-
Electronics(48)	3	2	7	3	5	1	3	-	-	-	-	-	-	-	-	-
Engineering mechanics	3	2	4	7	2	3	-	-	1	2	3	-	1	3	1	2
Engineering physics(49)	-	1	-	-	1	-	-	1	-	-	-	-	-	-	-	-
Engineering science(6)	-	-	-	-	-	-	-	1	1	-	1	-	-	1	-	-
Environmental health eng(50)	2	2	3	5	1	1	-	-	-	-	-	-	-	-	-	1
Industrial	2	3	3	4	2	2	-	1	-	2	-	3	1	1	-	1
Materials science	4	5	4	5	5	4	2	-	8	4	4	1	4	3	6	2
Mechanical	17	4	8	13	5	4	12	5	3	9	12	8	7	7	2	5
Metallurgical(51)	10	5	10	2	4	-	3	2	1	1	-	4	3	1	-	1
Mining/mineral(52)	-	-	-	-	-	-	1	1	1	-	1	-	-	-	-	-
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Nuclear(49)	1	2	5	3	3	4	2	2	3	1	1	1	-	-	-	1
Ocean(6)	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-
Operations research	2	1	5	1	2	1	-	-	-	1	1	-	-	1	1	1
Petroleum(53)	-	1	-	1	1	-	3	1	-	-	-	-	1	-	-	-
Polymer(6)	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	1
Systems(54)	1	-	-	4	1	2	-	-	-	3	-	-	2	2	2	1
Engineering, general	2	1	5	-	5	-	2	2	2	1	2	2	-	-	5	1
Engineering, other	2	6	2	7	3	1	1	4	2	5	1	4	3	2	4	1
TOTAL, NON-S&E(55)	546	511	655	661	492	446	230	238	250	179	182	197	138	140	137	134
TOTAL, ALL FIELDS	1,293	1,189	1,557	1,552	1,283	1,078	638	651	632	555	505	547	464	446	440	385

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS NATIVE AMERICAN																
TOTAL, S&E	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-
TOTAL, SCIENCES	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AGRIC & BIOL SCI	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biological sciences	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Human/animal pharmacol . .	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL, ENGINEERING	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Engineering, other	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
TOTAL, NON-S&E(55)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
TOTAL, ALL FIELDS	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	2

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS																
ASIAN																
TOTAL, S&E	553	495	556	571	541	491	438	433	390	435	410	478	461	492	515	574
TOTAL, SCIENCES	333	313	347	334	336	283	264	252	235	244	228	286	270	305	315	358
PHYSICAL SCIENCES	128	121	126	116	110	103	75	70	67	74	71	76	70	80	76	86
Physics/astronomy	33	43	38	43	32	36	22	26	20	19	18	17	33	26	31	27
Acoustics	-	-	-	-	2	2	-	-	1	-	-	-	1	-	-	1
Astronomy(1)	-	2	-	2	2	-	-	-	-	-	-	-	2	2	1	-
Astrophysics(1)	1	1	2	-	1	1	1	1	-	1	1	-	1	-	3	-
Atomic/molecular	4	2	2	1	2	1	5	6	2	-	-	-	2	4	1	-
Electromagnetism(3)	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	1	3	1	4	5	3	1	3	1	1	-	1	5	2	3	-
Fluids	1	1	1	-	-	1	1	-	-	-	-	-	-	1	1	-
Nuclear(5)	-	4	2	3	3	1	2	1	2	2	2	2	1	2	1	2
Optics	1	1	2	1	4	3	-	2	2	1	1	-	4	1	1	2
Plasma	3	6	1	3	1	1	1	-	-	1	-	1	3	-	1	2
Polymer(6)	-	-	-	-	-	-	-	1	-	3	1	-	1	-	-	1
Solid state	12	9	15	18	8	8	5	6	8	6	6	3	5	10	12	10
Thermal(8)	-	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Physics, general	5	6	8	8	3	11	4	2	3	4	6	7	6	3	4	5
Physics, other	3	4	4	3	1	3	2	4	1	-	1	3	2	1	3	4
Chemistry	95	78	88	73	78	67	53	44	47	55	53	59	37	54	45	59
Agricultural/food	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	3	5	8	8	9	5	3	6	3	4	1	7	7	4	8	6
Inorganic	11	2	6	5	6	3	3	5	3	5	3	6	3	4	1	5
Nuclear	2	1	2	1	-	-	1	-	-	-	-	-	-	-	-	-
Organic	29	26	24	18	29	24	13	14	17	25	19	11	6	19	7	19
Pharmaceutical	9	7	11	7	6	3	5	6	2	4	6	3	2	1	3	2
Physical	20	19	18	16	13	9	15	3	6	2	10	9	4	12	5	12
Polymer	7	4	9	4	11	12	5	5	7	9	5	7	7	5	4	2
Theoretical	-	1	-	-	-	-	-	1	-	2	1	1	-	-	2	-
Chemistry, general	8	6	7	10	4	4	5	3	6	2	4	13	6	9	14	11
Chemistry, other	4	7	2	4	-	7	3	1	3	2	4	2	2	-	1	2
EARTH, ATMOS, OCEAN SCI	19	13	14	17	15	10	15	18	11	13	8	9	7	12	13	10
Applied geology(9)	1	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
Atmos/meteorol sci, other	3	2	4	1	2	1	3	1	-	-	-	-	1	1	-	-
Atmospheric dynamics	-	1	1	4	1	1	1	2	2	2	-	-	1	2	2	-
Atmospheric phys/chem	1	-	3	-	2	-	-	-	-	-	1	-	-	2	1	-
Environmental sciences(10)	1	1	1	1	1	1	-	3	1	1	-	1	2	2	-	1
Geochemistry(11)	2	3	-	1	-	1	1	1	2	-	2	-	1	-	1	-
Geology(12)	-	-	-	-	-	-	-	-	1	1	1	3	-	-	-	1
Geomorph/glacial geology	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-
Geophysics/seismology(13)	-	-	-	4	3	4	5	3	2	3	1	3	1	-	2	4
Geophysics(13)	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	-	-	3	-	1	-	1	-	-	2	1	-	-	-	-	-
Marine sciences(6)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	2	1
Marine sciences, other(15)	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-
Meteorology(16)	4	-	-	-	-	-	-	1	-	1	1	-	-	-	-	1
Minerology, petrology(11)	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-
Oceanography	2	4	-	2	2	1	1	2	1	1	1	-	-	3	2	-
Paleontology	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Stratigraphy, sediment	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Geological sciences, gen(17)	-	-	-	-	-	-	-	2	1	-	-	-	-	-	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Earth sciences, general(17)	1	-	1	1	1	1	2	-	-	-	-	-	-	-	-	-
Earth sciences, other(17)	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Physical sciences, other(6)	-	-	-	-	-	-	-	-	1	2	-	-	1	1	2	-
MATHEMATICS	34	28	28	28	30	20	21	21	21	19	14	23	16	11	16	34
Algebra	3	1	-	3	-	2	1	-	1	1	-	-	-	-	1	2
Analysis/funct analysis(18)	1	2	3	5	2	2	4	1	1	1	3	1	5	1	2	2
Applied mathematics	2	7	2	1	4	3	4	5	4	1	1	6	2	1	4	7
Computing theory	6	2	-	-	-	1	-	-	1	-	-	1	-	-	-	-
Geometry	-	1	-	-	2	1	1	1	-	1	-	-	1	2	1	1
Logic	-	-	-	-	1	-	1	-	-	-	-	1	-	-	-	1
Math probability/stat(19)	7	11	11	12	15	4	7	9	10	12	1	8	4	5	3	12
Number theory	-	-	1	-	-	1	-	2	-	-	-	-	2	-	-	1
Operations research	3	3	1	1	2	1	1	-	-	1	4	2	1	-	1	1
Topology	3	-	1	2	2	-	-	-	1	1	1	-	-	1	-	1
Mathematics, general	4	1	5	4	2	3	1	-	2	1	2	2	1	1	4	6
Mathematics, other	5	-	4	-	-	2	1	3	1	-	2	2	-	-	-	-
COMPUTER & INFO SCI	-	-	2	6	7	12	10	14	8	15	25	16	24	34	38	33
Computer sciences	-	-	2	6	7	12	10	11	6	14	21	14	19	25	29	31
Information sci/systems(6)	-	-	-	-	-	-	-	3	2	1	4	2	5	9	9	2

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS																
ASIAN																
AGRIC & BIOL SCI	99	102	110	100	105	83	78	81	68	61	53	85	91	95	105	116
Agricultural sciences	17	12	25	17	19	17	15	18	13	16	10	21	21	16	21	15
Agronomy	1	3	2	1	2	1	3	-	3	-	-	3	1	3	-	-
Animal breeding/genetics(21)	-	-	-	1	1	1	-	1	-	-	-	-	-	-	-	-
Animal nutrition(22)	-	-	-	-	-	-	-	-	1	-	-	1	1	-	2	1
Animal sci/nutrition(22)	3	-	2	3	2	4	2	-	-	-	-	-	-	-	-	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	2	-	1	-
Animal sciences, other(22)	-	-	-	-	-	-	-	2	1	1	1	-	3	1	2	1
Fish/wildlife(23)	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	2	1	-	-	-	1	1	1	1
Wildlife management(23)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Food sciences(24)	7	2	13	2	8	2	4	12	3	6	4	10	1	-	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	6	8	8	7
Forestry science(25)	1	2	2	2	-	2	1	1	-	-	-	-	-	-	-	-
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-
Horticulture science	-	-	2	2	-	2	2	-	-	3	-	2	-	-	2	1
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	1	3	1	1	-	-	-	-
Plant pathology(26)	-	-	-	-	-	-	-	-	-	1	1	2	-	-	-	2
Phytopathology(26)	2	-	-	3	-	2	-	-	-	-	-	-	-	-	-	-
Soil sciences(28)	1	-	1	2	3	2	1	-	-	1	3	2	1	-	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	1
Agriculture, general	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Agriculture, other	1	3	3	1	3	1	1	-	2	1	-	-	-	-	-	-
Biological sciences	82	90	85	83	86	66	63	63	55	45	43	64	70	79	84	101
Anatomy	2	2	1	4	-	-	1	-	-	3	-	2	-	2	2	1
Biochemistry	30	26	29	28	12	21	17	20	16	13	8	11	14	19	16	21
Biometrics/biostat	-	1	2	5	3	-	1	2	3	1	-	1	1	5	1	-
Biophysics	5	5	8	6	6	3	-	2	3	-	1	2	1	2	3	3
Botany, other(29)	-	-	-	-	-	-	-	-	-	-	3	2	-	1	-	1
Botany(29)	2	1	3	1	1	1	1	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	-	1	2	1	2	-	3	2	1
Cytology(30)	1	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-
Devel bio/embryology(31)	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-
Ecology	1	-	-	2	-	1	-	-	-	-	-	1	-	-	1	2
Endocrinology(6)	-	-	-	-	-	-	-	2	4	-	-	-	-	-	2	1
Entomology	-	3	6	4	4	2	1	3	1	-	1	-	2	1	1	-
Human/animal genetics(32)	-	-	-	-	-	-	-	3	-	1	1	2	4	2	3	2
Plant genetics(32)	-	-	-	-	-	-	-	-	-	2	1	-	-	-	-	-
Genetics(32)	2	4	2	2	3	2	5	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	2	1	-	-	7	3	3	3	-
Plant pathology(33)	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1
Pathology(33)	1	4	1	-	2	2	1	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	8	9	5	1	12	9	5	2	3	1	5	7	6	1	6	5
Human/animal physiol(34)	-	-	-	-	-	-	-	1	3	5	1	4	5	3	8	3
Animal physiology(34)	3	4	2	6	3	2	4	-	-	-	-	-	-	-	-	-
Plant physiology(34)	4	-	1	-	2	2	2	1	-	-	1	1	1	1	1	-
Immunology	1	4	4	2	6	4	2	1	2	1	4	1	5	5	2	-
Microbiology(35)	-	-	-	-	-	-	-	5	6	3	5	4	4	8	11	17
Bacteriology(35)	-	-	-	-	-	-	-	1	1	-	1	-	-	-	-	1
Microbiology/bacteriol(35)	8	8	6	9	16	7	9	-	-	-	-	-	-	-	-	-
Molecular biology	5	7	5	1	5	3	1	2	3	4	1	4	6	11	5	14
Neurosciences	-	-	-	-	-	-	4	1	1	1	1	-	5	2	3	3
Nutritional sciences(36)	6	4	5	5	2	2	3	7	4	1	3	2	3	4	3	6
Parasitology	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Toxicology(6)	-	-	-	-	-	-	-	2	1	-	-	3	2	1	-	2
Zoology, other(37)	-	-	-	-	-	-	-	1	-	2	2	-	1	-	2	1
Zoology(37)	-	1	-	1	-	-	1	-	-	-	-	-	-	-	-	-
Biological sci, general	1	3	4	2	3	4	3	3	2	3	1	4	4	2	8	11
Biological sci, other	2	3	1	2	2	1	1	2	-	1	2	4	2	3	1	5

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS																
ASIAN																
SOCIAL SCIENCES	48	42	56	60	59	47	59	39	49	52	48	68	52	56	58	66
Agricultural economics	4	-	3	3	2	3	2	3	3	2	1	4	-	3	1	3
Anthropology	2	3	2	3	3	1	-	1	2	5	2	4	4	1	2	6
Area studies	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-
Criminology(38)	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	2
Demography(6)	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1
Econometrics	3	1	1	-	2	3	1	-	-	1	2	-	1	-	2	-
Economics	16	16	22	24	24	19	20	25	22	18	14	28	26	20	20	16
Geography	-	-	3	2	-	1	3	-	2	2	3	1	-	2	2	-
History of science(39)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
International relations	1	3	1	3	4	1	1	1	5	1	3	1	1	1	1	2
Linguistics	4	1	1	5	1	1	6	-	4	4	3	4	3	6	8	6
Pol sci/government(40)	-	-	-	-	-	-	-	3	6	4	8	7	3	12	7	6
Political science(40)	5	11	7	5	6	6	5	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	1	1	-	1	-	1	1	5	3
Sociology	8	7	7	9	9	8	13	3	1	6	3	10	5	6	5	12
Statistics	-	-	5	2	4	1	4	1	1	3	4	5	3	1	1	2
Urban studies(41)	4	-	2	3	1	1	2	1	2	3	1	1	2	1	2	4
Social sciences, general	-	-	-	-	1	-	1	-	-	-	-	-	-	1	1	-
Social sciences, other	1	-	1	1	1	2	1	-	-	1	3	2	1	1	1	3
PSYCHOLOGY	5	7	11	7	10	8	6	9	11	10	9	9	10	17	9	13
Clinical	1	1	-	-	1	1	1	1	3	1	2	1	2	3	2	1
Cognitive(6)	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-
Counseling(43)	-	-	2	-	-	2	-	1	1	1	-	1	3	3	-	2
Developmental(44)	1	1	1	-	-	1	1	2	-	-	1	1	2	-	1	1
Educational	-	-	1	1	1	-	-	1	3	-	-	1	-	-	-	1
Experimental(42)	1	1	-	1	3	2	2	1	1	-	1	-	-	2	1	2
Indust/organizational(45)	-	-	-	-	-	1	-	-	-	1	-	-	-	-	2	-
Physiological(42)	-	-	1	-	-	-	-	1	-	-	-	1	-	-	-	-
Quantitative(6)	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-
Personality	-	-	1	-	-	-	1	-	-	-	-	-	-	1	-	-
Psychometrics	-	1	1	-	1	-	-	-	-	-	-	-	-	-	2	-
School	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Social	1	-	2	-	-	-	1	-	-	2	2	1	-	2	1	3
Psychology, general	1	3	-	2	3	1	-	-	1	1	1	2	1	4	-	1
Psychology, other	-	-	2	2	1	-	-	2	2	3	1	-	1	-	-	2
TOTAL, ENGINEERING	220	182	209	237	205	208	174	181	155	191	182	192	191	187	200	216
Aerospace,aero/astronaut(46)	5	5	11	10	7	4	6	8	5	9	2	4	6	4	3	7
Agricultural	2	1	2	2	-	3	1	4	3	1	1	-	1	4	1	1
Bioengineering/biomed(47)	4	2	5	4	3	6	-	1	2	1	1	1	4	1	3	6
Ceramic	5	2	2	-	3	3	3	3	-	1	-	4	1	2	2	2
Chemical	33	29	36	37	33	39	25	21	24	28	37	29	32	33	24	18
Civil	29	18	14	13	14	19	17	11	24	19	13	16	17	19	20	15
Communications(6)	-	-	-	-	-	-	-	4	-	5	2	3	1	1	3	-
Computer	8	13	4	9	5	13	6	7	5	10	5	4	11	5	11	8
Electrical/electronics(48)	-	-	-	-	-	-	-	44	36	33	45	30	46	39	49	65
Electrical(48)	39	42	28	52	32	33	32	1	-	-	-	-	-	-	-	-
Electronics(48)	3	8	3	10	6	5	4	3	-	-	-	-	-	-	-	-
Engineering mechanics	12	7	6	8	6	5	8	4	5	3	3	4	6	6	5	3
Engineering physics(49)	2	-	1	1	2	2	-	-	-	-	-	-	-	-	-	1
Engineering science(6)	-	-	-	-	-	-	-	1	1	4	3	1	1	-	2	2
Environmental health eng(50)	4	2	4	3	4	-	4	2	1	2	5	4	2	2	-	4
Industrial	1	5	2	8	6	3	6	8	3	6	6	4	7	4	5	13
Materials science	16	14	14	20	13	12	11	11	14	10	15	18	11	7	14	19
Mechanical	18	11	32	25	34	25	24	21	14	34	18	32	29	35	36	31
Metallurgical(51)	6	5	14	10	13	9	5	7	6	6	10	7	3	7	4	1
Mining/mineral(52)	-	-	2	-	-	1	1	2	2	-	-	3	2	1	1	-
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Nuclear(49)	9	8	8	6	9	11	3	5	4	2	4	9	1	1	5	2
Ocean(6)	-	-	-	-	-	-	-	-	-	-	-	2	2	-	1	1
Operations research	6	3	6	3	4	8	5	3	1	3	3	5	-	2	2	3
Petroleum(53)	-	2	3	-	1	2	2	-	-	4	2	3	2	1	-	1
Polymer(6)	-	-	-	-	-	-	-	2	2	6	2	4	1	3	1	4
Systems(54)	5	3	4	7	1	2	2	4	2	1	1	-	4	2	1	1
Engineering, general	4	-	1	3	1	2	1	2	-	-	1	5	1	3	2	3
Engineering, other	9	2	7	6	8	1	8	2	1	3	3	-	-	5	4	4
TOTAL, NON-S&E(55)	88	76	86	103	103	117	114	118	117	118	118	147	160	143	147	155
TOTAL, ALL FIELDS	641	571	642	674	644	608	552	551	507	553	528	625	621	635	662	729

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS BLACK																
TOTAL, S&E	35	40	36	23	43	50	51	39	58	79	64	74	86	68	80	92
TOTAL, SCIENCES	26	36	32	20	36	47	40	29	55	64	54	61	74	59	68	80
PHYSICAL SCIENCES	2	2	2	3	3	5	5	6	6	4	5	4	5	6	11	7
Physics/astronomy	-	-	-	2	1	-	-	1	1	-	1	2	1	-	1	3
Acoustics	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Elementary particle	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Nuclear(5)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Optics	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-
Plasma	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-
Solid state	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Physics, general	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
Physics, other	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
Chemistry	2	2	2	1	2	5	5	5	5	4	4	2	4	6	10	4
Analytical	-	-	-	-	-	1	1	-	-	1	-	-	2	-	2	-
Inorganic	-	-	-	-	-	2	1	1	-	-	-	-	-	1	1	-
Nuclear	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organic	1	-	-	-	1	-	1	1	3	2	1	1	-	2	6	3
Pharmaceutical	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-
Physical	-	2	-	1	-	-	1	1	-	-	-	1	-	1	-	1
Polymer	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-
Chemistry, general	-	-	1	-	1	2	1	1	1	-	2	-	1	1	-	-
Chemistry, other	-	-	-	-	-	-	-	1	1	-	-	-	1	-	1	-
EARTH, ATMOS, OCEAN SCI	-	-	-	1	-	1	1	-	1	2	1	1	1	1	-	1
Environmental sciences(10)	-	-	-	-	-	1	-	-	-	-	-	1	-	1	-	-
Geochemistry(11)	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Geology(12)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Geophysics/seismology(13)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Hydrology/water res(14)	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-
Minerology, petrology(11)	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
MATHEMATICS	-	-	1	-	1	2	-	-	1	4	1	1	2	2	-	2
Algebra	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Analysis/funct analysis(18)	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-
Applied mathematics	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-
Math probability/stat(19)	-	-	-	-	-	1	-	-	-	3	-	1	-	-	-	2
Operations research	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Mathematics, general	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-
Mathematics, other	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-
COMPUTER & INFO SCI	-	-	-	-	-	-	-	-	1	1	1	-	1	-	-	3
Computer sciences	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	3
Information sci/systems(6)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS																
BLACK																
AGRIC & BIOL SCI	8	11	9	3	9	9	8	9	13	20	17	21	24	19	20	24
Agricultural sciences	-	5	3	2	1	2	2	-	8	11	9	6	12	8	6	11
Agronomy	-	-	-	-	1	-	-	-	2	1	1	1	4	-	1	2
Animal breeding/genetics(21)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Animal nutrition(22)	-	-	-	-	-	-	-	-	1	-	1	-	-	2	-	2
Animal sci/nutrition(22)	-	1	2	-	-	-	1	-	-	-	-	-	-	-	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Animal sciences, other(22)	-	-	-	-	-	-	-	-	1	2	1	2	-	-	-	-
Wildlife management(23)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	2	-	1	-
Food sciences(24)	-	1	-	2	-	-	1	-	-	3	-	1	-	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	2	1	2	1
Forestry science(25)	-	1	-	-	-	1	-	-	-	-	-	1	-	-	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2
Horticulture science	-	-	-	-	-	1	-	-	1	-	1	1	-	1	-	-
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	-	-	1	-	1	1	-	1
Plant pathology(26)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
Soil sciences(28)	-	1	-	-	-	-	-	-	-	2	2	-	-	-	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-
Agriculture, general	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Agriculture, other	-	1	1	-	-	-	-	-	1	1	2	-	-	1	-	1
Biological sciences	8	6	6	1	8	7	6	9	5	9	8	15	12	11	14	13
Anatomy	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Biochemistry	1	1	-	1	-	1	1	2	1	2	1	-	-	2	2	1
Biometrics/biostat	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-
Cytology(30)	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Ecology	-	-	-	-	-	-	-	1	2	-	1	-	-	-	-	-
Endocrinology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Entomology	1	-	1	-	1	-	-	-	-	-	1	-	1	-	1	-
Human/animal genetics(32)	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-
Genetics(32)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Pathology(33)	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	1	-	2	-	1	-	1	-	-	2	1	-	-	2	1	1
Human/animal physiol(34)	-	-	-	-	-	-	-	-	-	-	-	1	-	2	2	3
Animal physiology(34)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Immunology	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
Microbiology(35)	-	-	-	-	-	-	-	2	1	-	2	1	1	2	-	4
Microbiology/bacteriol(35)	-	1	1	-	-	2	-	-	-	-	-	-	-	-	-	-
Molecular biology	-	-	-	-	-	-	-	-	-	-	-	2	1	2	-	1
Neurosciences	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-
Nutritional sciences(36)	1	2	-	-	1	1	3	1	-	1	1	3	6	1	1	-
Parasitology	1	-	-	-	-	-	-	-	-	1	-	1	-	-	-	1
Toxicology(6)	-	-	-	-	-	-	-	-	-	-	-	3	-	-	1	-
Zoology, other(37)	-	-	-	-	-	-	-	1	-	-	-	1	1	-	-	-
Zoology(37)	-	2	1	-	1	-	-	-	-	-	-	-	-	-	-	-
Biological sci, general	-	-	-	-	1	1	-	1	-	1	-	-	-	-	4	1
Biological sci, other	-	-	-	-	-	1	-	-	-	-	1	-	-	-	1	-

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS																
BLACK																
SOCIAL SCIENCES	16	20	16	10	19	28	23	12	27	29	22	29	37	30	33	40
Agricultural economics	1	1	-	1	-	4	-	-	2	2	-	2	2	4	2	2
Anthropology	1	-	1	2	-	-	-	-	-	1	1	2	1	-	1	-
Area studies	1	-	1	-	-	1	-	-	-	1	-	1	1	-	-	-
Criminology(38)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Demography(6)	-	-	-	-	-	-	-	-	-	-	1	-	-	1	1	-
Econometrics	-	-	-	-	-	-	-	1	-	1	1	-	-	1	-	1
Economics	3	7	2	2	8	6	10	2	9	9	8	7	4	4	7	13
Geography	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-	1
International relations	1	1	2	1	-	2	3	2	1	3	3	3	2	4	5	1
Linguistics	-	2	1	-	2	-	-	-	1	-	1	-	2	1	-	2
Pol sci/government(40)	-	-	-	-	-	-	-	2	9	5	2	7	9	8	9	4
Political science(40)	3	5	4	1	5	7	4	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	-	2	2	-	-	4	1	3	4
Sociology	4	3	3	2	4	4	1	4	2	2	5	2	8	1	2	7
Urban studies(41)	2	-	2	1	-	2	2	1	1	2	-	2	2	2	2	2
Social sciences, general	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
Social sciences, other	-	1	-	-	-	2	3	-	-	-	-	1	2	1	-	1
PSYCHOLOGY	-	3	4	3	4	2	3	2	6	4	7	5	4	1	4	3
Clinical	-	1	3	1	-	1	-	1	2	-	3	2	1	-	1	-
Counseling(43)	-	-	-	1	-	-	-	1	2	2	3	-	1	1	1	1
Developmental(44)	-	-	-	-	1	-	1	-	1	-	-	-	-	-	-	-
Educational	-	-	-	1	-	-	-	-	1	-	1	-	1	-	1	-
Experimental(42)	-	1	1	-	-	-	1	-	-	1	-	-	-	-	-	-
Indust/organizational(45)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Personality	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Social	-	-	-	-	1	-	-	-	-	-	-	1	1	-	-	1
Psychology, general	-	-	-	-	1	1	1	-	-	-	-	1	-	-	1	1
Psychology, other	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-
TOTAL, ENGINEERING	9	4	4	3	7	3	11	10	3	15	10	13	12	9	12	12
Aerospace,aero/astronaut(46)	-	-	-	-	-	-	2	-	-	2	-	-	1	-	-	-
Agricultural	-	-	-	1	-	-	-	1	-	1	-	1	-	2	1	-
Bioengineering/biomed(47)	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-
Chemical	-	1	-	-	1	-	1	2	-	2	2	-	2	2	3	4
Civil	2	-	2	-	1	1	-	2	-	2	1	3	1	3	1	4
Computer	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
Electrical/electronics(48)	-	-	-	-	-	-	-	-	2	2	2	3	-	1	1	-
Electrical(48)	4	1	1	-	1	-	3	-	-	-	-	-	-	-	-	-
Electronics(48)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Engineering mechanics	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1	1
Environmental health eng(50)	1	-	-	-	-	-	2	-	-	-	1	-	-	-	-	-
Industrial	-	-	1	-	-	-	1	1	-	1	-	-	4	-	1	1
Materials science	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	1
Mechanical	-	-	-	-	-	-	-	1	-	1	-	-	1	-	-	-
Metallurgical(51)	-	-	-	-	-	-	-	1	-	1	1	1	1	-	-	-
Mining/mineral(52)	-	-	-	-	-	-	-	1	-	-	-	1	-	-	1	-
Nuclear(49)	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-
Operations research	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum(53)	-	1	-	-	1	1	1	-	-	-	1	-	1	-	2	-
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Systems(54)	1	1	-	-	-	1	-	-	1	1	-	-	-	-	-	-
Engineering, general	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Engineering, other	-	-	-	-	-	-	-	1	-	1	-	-	-	-	1	1
TOTAL, NON-S&E(55)	19	38	37	35	30	47	45	44	44	52	62	65	66	73	69	57
TOTAL, ALL FIELDS	54	78	73	58	73	97	96	83	102	131	126	139	152	141	149	149

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS																
HISPANIC																
TOTAL, S&E	10	27	40	49	42	40	43	45	41	46	66	49	67	69	76	79
TOTAL, SCIENCES	9	23	27	40	33	36	30	34	29	40	56	39	47	55	61	67
PHYSICAL SCIENCES	3	5	3	8	7	4	4	2	9	4	5	8	6	7	9	11
Physics/astronomy	-	4	2	3	3	2	3	-	2	1	4	4	1	4	2	4
Acoustics	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Astronomy(1)	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-
Astrophysics(1)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Atomic/molecular	-	-	-	-	-	1	1	-	-	-	-	2	-	-	-	-
Elementary particle	-	-	1	1	1	-	-	-	1	1	1	-	-	1	1	-
Fluids	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Nuclear(5)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Optics	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Plasma	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Solid state	-	1	1	-	1	1	1	-	-	-	2	1	1	1	-	1
Physics, general	-	2	-	-	-	-	-	-	-	-	-	1	-	-	1	2
Physics, other	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Chemistry	3	1	1	5	4	2	1	2	7	3	1	4	5	3	7	7
Analytical	-	-	-	1	-	-	1	-	-	-	-	-	-	-	1	-
Inorganic	-	-	-	1	-	1	-	-	-	1	1	-	1	-	-	-
Nuclear	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Organic	2	1	-	1	3	-	-	2	2	1	-	1	2	1	1	3
Pharmaceutical	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Physical	1	-	-	2	-	-	-	-	4	-	-	2	-	1	2	2
Theoretical	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Chemistry, general	-	-	1	-	-	-	-	-	-	1	-	-	2	1	3	1
Chemistry, other	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-
EARTH, ATMOS, OCEAN SCI	-	1	1	1	1	-	1	2	1	2	-	2	-	3	2	4
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Atmos/meteorol sci, other	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Atmospheric phys/chem	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
Environmental sciences(10)	-	-	1	-	-	-	-	1	-	1	-	-	-	-	-	-
Geochemistry(11)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Geology(12)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-
Geophysics/seismology(13)	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	1
Oceanography	-	-	-	-	-	-	-	-	-	-	-	1	-	2	-	1
Stratigraphy, sediment	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Earth sciences, other(17)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MATHEMATICS	-	3	-	4	2	1	-	3	-	5	3	2	1	3	3	3
Algebra	-	-	-	1	1	-	-	-	-	-	1	-	-	2	-	-
Analysis/funct analysis(18)	-	2	-	1	-	-	-	-	-	-	-	-	-	-	-	1
Applied mathematics	-	-	-	2	1	-	-	-	-	3	1	1	-	-	2	-
Geometry	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Math probability/stat(19)	-	1	-	-	-	1	-	-	-	2	-	1	1	-	-	-
Operations research	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	1
Mathematics, general	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	1
Mathematics, other	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
COMPUTER & INFO SCI	-	-	-	1	-	-	-	-	-	1	3	-	-	-	1	1
Computer sciences	-	-	-	1	-	-	-	-	-	1	3	-	-	-	1	1

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS																
HISPANIC																
AGRIC & BIOL SCI	3	4	5	6	6	14	4	8	9	12	24	13	23	19	25	23
Agricultural sciences	1	1	2	2	1	7	1	4	4	2	10	3	8	6	9	8
Agronomy	-	-	-	1	-	2	-	3	-	-	1	-	-	1	-	-
Animal breeding/genetics(21)	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-
Animal nutrition(22)	-	-	-	-	-	-	-	-	1	-	-	1	-	2	1	-
Animal sci/nutrition(22)	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Animal sciences, other(22)	-	-	-	-	-	-	-	-	-	-	1	-	1	1	-	-
Fisheries science(23)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Food sciences(24)	-	-	-	-	-	2	-	1	-	1	1	-	-	-	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Horticulture science	-	-	1	-	-	-	-	-	-	-	1	-	1	-	-	-
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	1	-	-	1	1	-	1	1
Plant pathology(26)	-	-	-	-	-	-	-	-	1	-	1	-	-	1	3	-
Phytopathology(26)	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	1	1	-	-	1	-	-	-
Soil sciences(28)	1	-	-	-	-	2	-	-	-	-	2	1	-	-	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Agriculture, other	-	-	1	-	1	-	-	-	-	-	1	-	1	-	-	-
Biological sciences	2	3	3	4	5	7	3	4	5	10	14	10	15	13	16	15
Anatomy	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-
Biochemistry	1	2	1	-	-	-	-	2	1	3	2	-	3	2	1	2
Biophysics	-	-	-	-	-	1	-	-	-	-	1	1	-	-	2	-
Botany, other(29)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Botany(29)	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	-	-	-	1	-	1	-	1	1
Devel bio/embryology(31)	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-
Ecology	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	1
Entomology	-	-	-	-	-	2	-	-	1	-	1	-	-	-	2	-
Human/animal genetics(32)	-	-	-	-	-	-	-	-	-	-	1	-	2	-	-	2
Human/animal pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Plant pathology(33)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Human/animal pharmacol	-	-	-	-	1	-	-	-	-	3	-	-	-	1	1	-
Human/animal physiol(34)	-	-	-	-	-	-	-	-	-	1	-	-	-	2	-	1
Animal physiology(34)	-	1	-	-	-	1	1	-	-	-	-	-	-	-	-	-
Plant physiology(34)	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	2
Immunology	-	-	1	1	-	-	-	-	-	1	1	1	-	-	-	2
Microbiology(35)	-	-	-	-	-	-	-	-	-	-	2	2	3	2	-	-
Microbiology/bacteriol(35)	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-
Molecular biology	-	-	1	-	1	1	1	1	-	-	1	-	1	1	2	-
Neurosciences	-	-	-	-	-	-	-	1	-	1	-	-	-	1	1	1
Nutritional sciences(36)	-	-	-	-	-	-	-	-	-	-	-	2	1	1	1	2
Parasitology	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-
Toxicology(6)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-
Zoology, other(37)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
Zoology(37)	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Biological sci, general	-	-	-	-	-	-	-	-	1	-	2	-	1	1	3	-
Biological sci, other	-	-	-	1	-	-	-	-	-	-	1	2	-	-	-	-

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS																
HISPANIC																
SOCIAL SCIENCES	3	4	11	13	14	10	16	9	7	11	13	11	13	17	12	17
Agricultural economics	-	-	-	-	1	-	3	3	1	-	1	-	-	1	-	2
Anthropology	1	-	3	2	1	5	-	1	1	1	4	1	3	2	1	1
Area studies	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Demography(6)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Econometrics	-	-	-	-	-	-	1	-	1	-	-	-	-	1	-	-
Economics	1	1	3	2	4	3	5	1	2	3	1	4	4	2	3	4
International relations	-	-	1	-	-	-	-	1	-	1	-	-	-	1	-	-
Linguistics	-	3	2	3	4	-	1	-	-	2	-	1	2	2	-	2
Pol sci/government(40)	-	-	-	-	-	-	-	-	-	-	2	4	-	1	1	2
Political science(40)	1	-	1	1	-	1	3	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
Sociology	-	-	1	3	3	-	2	1	1	2	2	1	3	6	7	2
Urban studies(41)	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	2
Social sciences, general	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Social sciences, other	-	-	-	1	-	1	1	2	1	-	1	-	-	1	-	1
PSYCHOLOGY	-	6	7	7	3	7	5	10	3	5	8	3	4	6	9	8
Clinical	-	2	1	2	2	3	4	3	2	2	3	2	1	2	6	3
Cognitive(6)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
Counseling(43)	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-
Developmental(44)	-	-	-	3	-	-	-	-	-	-	1	-	-	1	1	-
Educational	-	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-
Experimental(42)	-	1	1	-	-	-	-	-	-	1	-	-	1	-	-	3
Indust/organizational(45)	-	1	-	1	-	-	-	1	-	-	-	-	-	-	-	1
Physiological(42)	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Quantitative(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Personality	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
School	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Social	-	-	1	1	-	-	-	2	-	1	1	-	-	-	-	-
Psychology, general	-	1	1	-	1	1	-	2	-	1	1	-	-	1	1	-
Psychology, other	-	-	3	-	-	-	1	-	1	-	-	1	-	1	1	-
TOTAL, ENGINEERING	1	4	13	9	9	4	13	11	12	6	10	10	20	14	15	12
Aerospace,aero/astronaut(46)	-	-	-	1	1	-	1	-	1	-	-	-	-	-	-	-
Agricultural	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Bioengineering/biomed(47)	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	1
Ceramic	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-
Chemical	-	1	2	-	-	-	1	2	1	-	-	4	2	4	1	1
Civil	-	-	2	1	2	-	2	3	-	1	4	-	3	4	3	-
Communications(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Computer	-	-	2	-	-	-	-	-	-	-	-	1	-	-	1	1
Electrical/electronics(48)	-	-	-	-	-	-	-	1	2	3	2	1	4	3	3	3
Electrical(48)	-	-	5	-	1	-	1	-	-	-	-	-	-	-	-	-
Electronics(48)	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Engineering mechanics	-	-	-	-	-	-	1	-	-	-	1	-	2	-	-	-
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1
Industrial	-	1	-	-	1	1	1	1	1	-	-	-	-	-	2	1
Materials science	-	-	-	-	-	-	-	1	1	-	1	-	1	-	-	2
Mechanical	-	-	1	2	-	2	3	2	1	-	2	1	-	-	2	1
Metallurgical(51)	-	-	-	-	-	1	1	-	2	-	-	2	-	-	1	-
Nuclear(49)	-	-	-	-	-	-	1	-	-	1	-	-	1	-	1	-
Ocean(6)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Operations research	-	-	-	2	1	-	-	1	-	-	-	-	1	-	1	-
Petroleum(53)	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Systems(54)	1	1	-	-	-	-	1	-	2	-	-	-	-	1	-	-
Engineering, general	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-
Engineering, other	-	1	-	-	1	-	-	-	-	1	-	-	-	-	-	-
TOTAL, NON-S&E(55)	13	24	25	28	31	22	36	24	30	27	41	42	32	43	41	56
TOTAL, ALL FIELDS	23	51	65	77	73	62	79	69	71	73	107	91	99	112	117	135

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS WHITE																
TOTAL, S&E	354	370	341	288	302	298	296	362	325	344	398	438	450	450	474	471
TOTAL, SCIENCES	251	246	246	217	227	214	211	250	230	253	273	311	326	307	324	342
PHYSICAL SCIENCES	52	50	51	33	29	33	32	38	34	50	41	54	46	51	66	70
Physics/astronomy	26	30	24	18	13	13	9	24	12	26	15	30	24	30	32	33
Acoustics	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Astronomy(1)	1	-	1	1	1	1	-	-	-	-	-	-	3	-	-	1
Astrophysics(1)	-	-	1	-	1	2	-	1	1	1	1	1	-	1	-	1
Atomic/molecular	-	1	6	1	1	-	1	1	-	1	-	2	1	-	1	5
Electron(2)	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-
Elementary particle	5	5	-	2	1	3	1	2	4	4	3	8	4	6	6	5
Fluids	1	-	-	2	-	-	-	-	-	-	-	1	1	-	-	1
Nuclear(5)	4	5	2	1	1	-	-	5	1	1	2	4	1	4	1	1
Optics	-	-	-	-	1	1	-	3	2	-	-	1	4	1	1	3
Plasma	3	2	3	1	1	-	-	1	-	1	1	5	1	6	1	-
Solid state	6	8	3	5	2	2	5	8	1	8	4	6	4	5	5	8
Thermal(8)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Physics, general	5	5	4	4	2	4	1	1	2	7	4	2	4	6	11	2
Physics, other	1	4	3	1	2	-	1	2	1	2	-	-	1	-	5	6
Chemistry	26	20	27	15	16	20	23	14	22	24	26	24	22	21	34	37
Analytical	-	3	-	3	2	2	3	-	2	1	4	5	1	-	5	5
Inorganic	4	1	2	2	1	-	4	-	3	2	2	3	5	5	4	1
Nuclear	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Organic	7	5	4	7	4	9	5	8	6	8	4	8	3	5	8	13
Pharmaceutical	3	2	4	-	-	1	1	1	1	-	2	-	2	2	1	-
Physical	4	5	4	2	2	4	3	2	6	3	4	4	7	3	7	10
Polymer	-	1	2	-	2	1	1	1	3	1	1	-	-	1	2	1
Theoretical	1	1	-	1	-	1	-	1	-	-	-	-	-	-	1	-
Chemistry, general	5	1	6	-	3	2	4	-	-	6	5	4	4	4	4	6
Chemistry, other	2	1	5	-	2	-	1	1	1	3	4	-	-	1	2	1
EARTH, ATMOS, OCEAN SCI	8	7	6	13	9	5	12	10	12	15	15	13	20	14	8	11
Applied geology(9)	-	-	1	-	-	1	1	-	-	-	1	-	-	-	-	-
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
Atmos/meteorol sci, other	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Atmospheric dynamics	-	-	-	1	1	-	1	-	1	-	-	1	2	-	-	-
Atmospheric phys/chem	-	-	-	-	-	-	-	1	1	-	1	-	1	-	-	-
Environmental sciences(10)	-	1	1	4	2	-	-	1	1	1	1	-	-	1	2	-
Geochemistry(11)	1	2	1	-	-	1	1	-	-	-	3	-	-	1	1	2
Geology(12)	-	-	-	-	-	-	-	-	1	5	5	1	3	3	1	4
Structural geology(12)	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-
Geomorph/glacial geology	-	-	-	-	-	-	1	1	-	-	-	1	-	1	1	-
Geophysics/seismology(13)	1	1	-	1	3	1	2	3	3	2	-	4	3	-	-	2
Hydrology/water res(14)	-	-	-	1	-	-	2	-	-	-	1	-	-	-	-	-
Marine sciences(6)	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-
Marine sciences, other(15)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Meteorology(16)	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Minerology, petrology(11)	1	-	-	-	-	-	1	-	-	1	1	-	1	-	-	2
Oceanography	2	1	-	-	1	-	-	2	1	-	1	2	3	4	1	1
Paleontology	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-
Stratigraphy, sediment	1	-	2	3	-	-	-	-	2	3	1	1	1	2	-	-
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	1	-	-	1	3	1	-	-
Earth sciences, general(17)	1	1	-	-	-	1	1	-	-	-	-	-	-	-	-	-
Earth sciences, other(17)	-	-	-	1	2	1	-	-	-	-	-	-	-	-	-	-
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	-
MATHEMATICS	16	21	16	19	27	19	18	21	14	13	17	24	24	18	26	16
Algebra	1	2	2	2	2	3	1	2	2	1	-	1	2	-	1	-
Analysis/funct analysis(18)	1	1	3	4	2	2	-	2	-	2	4	3	2	4	1	2
Applied mathematics	2	5	2	4	4	3	8	4	2	5	1	1	8	5	11	1
Computing theory	2	4	3	1	1	1	2	-	-	-	1	1	-	-	1	-
Geometry	-	-	-	-	2	1	1	1	-	-	2	-	1	-	-	1
Logic	1	-	-	-	2	-	1	-	2	2	2	1	1	-	1	1
Math probability/stat(19)	4	2	2	4	8	5	1	6	3	-	3	5	3	5	5	6
Number theory	1	-	-	-	1	-	1	-	1	-	1	1	-	-	-	-
Operations research	-	4	3	1	1	2	-	-	-	-	1	4	-	-	-	-
Topology	2	1	1	1	1	1	1	1	-	1	-	-	3	2	-	1
Mathematics, general	1	1	-	2	2	1	1	2	1	2	2	5	3	2	5	3
Mathematics, other	1	1	-	-	1	-	1	3	3	-	-	2	1	-	1	1
COMPUTER & INFO SCI	-	1	3	5	5	8	2	13	8	7	17	14	12	23	14	25
Computer sciences	-	1	3	5	5	8	2	11	7	5	16	13	10	21	13	25
Information sci/systems(6)	-	-	-	-	-	-	-	2	1	2	1	1	2	2	1	-

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate 1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS																
WHITE																
AGRIC & BIOL SCI	64	57	56	50	61	51	46	48	56	57	62	75	113	82	85	91
Agricultural sciences	14	7	12	6	14	8	5	13	9	13	14	13	25	10	19	18
Agronomy	1	-	3	-	2	1	-	-	2	1	3	1	5	-	5	3
Animal breeding/genetics(21)	-	-	-	-	-	-	-	1	-	-	-	1	-	1	-	-
Animal nutrition(22)	-	-	-	-	-	-	-	2	-	-	1	-	1	-	-	2
Animal sci/nutrition(22)	3	3	-	1	1	1	1	-	-	-	-	-	-	-	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Animal sciences, other(22)	-	-	-	-	-	-	-	1	-	3	2	1	2	3	-	2
Fish/wildlife(23)	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	2	-	-	-	1	1	-	1	-
Wildlife management(23)	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Food sciences(24)	5	3	4	4	4	1	2	2	1	3	3	2	-	-	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	3	2	4	2
Forestry science(25)	-	1	-	-	-	-	-	2	1	1	2	1	-	-	-	-
Renewable natrl rsrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2
Horticulture science	-	-	1	-	1	2	-	2	-	1	-	2	4	1	2	1
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	-	1	-	1	1	-	2	-
Plant pathology(26)	-	-	-	-	-	-	-	1	-	1	1	-	2	1	-	2
Phytopathology(26)	2	-	1	1	2	-	1	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	1	-	-	1	1	-	-	1
Soil sciences(28)	3	-	1	-	1	1	1	-	3	2	1	-	-	-	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	4	-	1	-
Agriculture, general	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Agriculture, other	-	-	2	-	2	2	-	-	1	-	1	-	-	-	-	-
Biological sciences	50	50	44	44	47	43	41	35	47	44	48	62	88	72	66	73
Anatomy	3	2	1	1	2	3	1	1	-	3	-	2	4	2	1	-
Biochemistry	9	6	4	10	7	9	15	5	8	10	7	6	12	9	10	13
Biometrics/biostat	2	1	1	-	-	-	-	1	-	1	-	-	2	-	2	2
Biophysics	5	2	2	1	2	2	2	-	1	-	1	2	-	1	-	1
Botany, other(29)	-	-	-	-	-	-	-	1	3	-	1	1	3	2	2	1
Botany(29)	2	-	-	-	2	1	-	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	-	2	2	1	4	2	3	2	5
Cytology(30)	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
Devel bio/embryology(31)	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	1
Ecology	1	2	1	-	3	1	1	3	1	2	1	2	5	4	3	1
Endocrinology(6)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-
Entomology	1	-	2	1	2	3	1	1	1	-	2	-	1	3	3	2
Human/animal genetics(32)	-	-	-	-	-	-	-	-	3	1	1	2	1	1	3	2
Genetics(32)	1	4	1	1	2	1	1	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	2	1	2	1	5	3	4	3	1
Plant pathology(33)	-	-	-	-	-	-	-	-	-	-	-	3	1	1	2	-
Pathology(33)	3	3	2	2	5	-	2	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	1	4	2	-	3	1	1	1	3	2	3	5	3	2	2	2
Human/animal physiol(34)	-	-	-	-	-	-	-	4	4	3	7	7	2	7	7	2
Animal physiology(34)	4	6	6	3	3	6	2	-	-	-	-	-	-	-	-	-
Plant physiology(34)	1	2	2	1	1	1	2	2	1	-	-	2	2	1	-	1
Immunology	3	1	1	6	3	-	2	3	2	5	-	1	4	2	2	2
Microbiology(35)	-	-	-	-	-	-	-	3	3	7	5	2	10	6	5	4
Bacteriology(35)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Microbiology/bacteriol(35)	5	7	5	4	3	3	3	-	-	-	-	-	-	-	-	-
Molecular biology	3	-	3	2	1	3	1	2	3	-	7	3	11	5	6	13
Neurosciences	-	-	-	-	-	-	3	1	1	2	1	5	1	6	2	4
Nutritional sciences(36)	2	-	1	4	1	2	-	-	1	-	1	2	3	1	1	2
Parasitology	-	1	-	-	-	-	-	-	-	-	-	-	2	-	-	2
Toxicology(6)	-	-	-	-	-	-	-	1	1	-	1	1	3	-	1	1
Zoology, other(37)	-	-	-	-	-	-	-	2	2	-	2	-	1	1	1	2
Zoology(37)	1	2	2	4	2	1	2	-	-	-	-	-	-	-	-	-
Biological sci, general	2	6	3	3	2	3	2	-	4	2	3	3	4	6	5	3
Biological sci, other	1	1	5	1	1	3	-	2	1	1	2	4	7	5	2	6

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS																
WHITE																
SOCIAL SCIENCES	81	82	82	69	67	68	70	77	75	73	83	91	70	89	76	94
Agricultural economics	-	5	-	3	3	5	4	3	2	-	4	2	5	1	2	7
Anthropology	7	9	8	9	8	3	6	7	5	7	9	8	6	9	5	6
Area studies	1	-	1	-	-	-	1	-	-	-	-	-	-	-	-	1
Criminology(38)	-	-	-	-	-	2	-	2	-	1	-	-	-	-	-	1
Demography(6)	-	-	-	-	-	-	-	-	-	-	2	-	1	-	-	-
Econometrics	-	-	-	2	1	2	-	2	3	1	2	1	1	1	-	-
Economics	19	16	22	20	14	24	25	26	30	24	27	34	17	25	35	20
Geography	7	10	6	2	2	1	1	7	4	5	1	4	4	5	6	2
History of science(39)	2	-	2	-	-	-	-	-	1	1	-	-	-	-	-	1
International relations	4	-	6	2	5	1	2	2	2	2	2	3	2	4	1	3
Linguistics	3	6	3	4	5	1	5	6	5	9	5	5	7	13	1	9
Pol sci/government(40)	-	-	-	-	-	-	-	7	9	6	8	12	10	11	8	16
Political science(40)	9	14	16	6	8	10	9	-	-	-	-	-	-	-	-	-
Pol sci, public admin(40)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	1	2	1	-	1	1	-	-	3
Sociology	19	16	13	15	17	14	12	8	10	6	14	14	8	12	10	17
Statistics	-	-	-	1	-	1	2	-	-	2	4	2	1	1	2	1
Urban studies(41)	5	4	2	2	2	3	2	1	2	4	2	1	2	-	1	3
Social sciences, general	1	-	-	1	-	-	-	1	-	-	1	-	1	3	2	-
Social sciences, other	3	2	3	2	2	1	1	4	-	4	2	4	4	4	3	4
PSYCHOLOGY	30	28	32	28	29	30	31	43	31	38	38	40	41	30	49	35
Clinical	5	5	9	5	7	3	9	12	12	11	11	12	20	14	21	15
Cognitive(6)	-	-	-	-	-	-	-	1	1	-	-	2	1	-	3	1
Comparative(42)	1	1	-	-	-	-	-	-	1	-	1	-	-	1	-	-
Counseling(43)	3	1	1	4	2	6	2	4	4	2	7	5	2	2	4	1
Developmental(44)	1	5	1	1	2	2	3	1	1	1	2	6	1	2	5	2
Educational	2	2	4	2	4	2	1	8	1	3	2	-	2	1	1	-
Experimental(42)	1	3	5	4	6	2	-	2	-	-	2	2	2	2	1	1
Indust/organizational(45)	1	2	3	2	-	1	1	1	2	1	-	-	-	1	2	3
Physiological(42)	2	-	2	1	3	2	1	-	-	5	1	1	1	-	1	1
Quantitative(6)	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1	-
Personality	-	-	-	-	-	-	-	1	-	1	-	-	1	-	1	-
Psychometrics	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
School	4	-	2	-	2	-	2	3	-	1	2	-	1	-	2	-
Social	3	4	1	2	1	4	2	1	2	5	4	4	2	-	2	3
Psychology, general	5	2	2	4	1	4	5	6	4	5	3	4	6	3	3	4
Psychology, other	1	3	2	3	1	4	5	3	3	3	2	3	2	3	2	4
TOTAL, ENGINEERING	103	124	95	71	75	84	85	112	95	91	125	127	124	143	150	129
Aerospace,aero/astronaut(46)	3	5	3	4	3	2	1	5	4	5	2	4	7	4	5	4
Agricultural	1	-	1	1	1	1	2	2	2	-	1	5	1	2	3	1
Bioengineering/biomed(47)	2	2	1	-	2	3	3	-	4	3	1	1	3	3	4	3
Ceramic	-	5	1	1	-	2	-	-	1	-	1	1	1	1	1	-
Chemical	6	14	8	8	6	4	10	12	7	9	10	13	6	15	14	20
Civil	12	21	9	7	7	12	8	14	14	15	26	17	21	26	32	16
Communications(6)	-	-	-	-	-	-	-	1	2	2	-	3	2	3	2	2
Computer	2	5	7	3	2	4	4	9	3	1	6	2	-	5	1	4
Electrical/electronics(48)	-	-	-	-	-	-	-	14	17	25	20	22	37	37	34	41
Electrical(48)	23	18	17	14	9	18	15	4	-	-	-	-	-	-	-	-
Electronics(48)	3	3	4	-	2	2	2	1	-	-	-	-	-	-	-	-
Engineering mechanics	5	7	4	3	4	2	8	5	6	1	5	8	4	6	4	5
Engineering physics(49)	-	-	-	2	-	1	-	-	1	-	2	-	-	1	1	1
Engineering science(6)	-	-	-	-	-	-	-	-	1	-	-	1	-	1	1	-
Environmental health eng(50)	4	2	2	1	1	1	2	1	2	-	2	1	-	2	2	-
Fuel tech/petro eng(9)	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	2	2	2	1	3	3	3	8	2	-	8	8	-	3	5	2
Materials science	5	6	2	2	5	6	1	3	2	2	1	3	6	2	2	3
Mechanical	12	14	11	12	15	10	17	13	13	15	24	19	24	17	21	17
Metallurgical(51)	4	7	3	-	1	3	1	2	1	-	2	1	1	1	1	-
Mining/mineral(52)	1	-	1	-	-	1	-	1	1	1	1	-	-	1	-	-
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	1	-	3	-	1	1	1	-
Nuclear(49)	5	2	8	3	5	3	3	6	6	2	3	2	1	3	3	-
Ocean(6)	-	-	-	-	-	-	-	2	-	2	-	-	-	1	1	-
Operations research	6	5	3	1	2	1	1	-	3	1	2	4	1	1	1	1
Petroleum(53)	2	-	2	2	4	-	2	1	-	1	-	-	1	-	4	1
Polymer(6)	-	-	-	-	-	-	-	-	-	2	1	1	1	2	1	1
Systems(54)	2	1	3	3	2	4	1	3	-	2	1	4	2	2	2	-
Engineering, general	2	1	1	1	1	1	-	2	-	-	1	4	3	2	2	2
Engineering, other	-	4	2	1	-	-	1	3	2	2	2	3	1	1	2	5
TOTAL, NON-S&E(55)	216	219	190	188	166	192	167	183	189	190	198	216	224	226	232	274
TOTAL, ALL FIELDS	570	589	531	476	468	490	463	545	514	534	596	654	674	676	706	745

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS UNKNOWN RACE																
TOTAL, S&E	154	57	19	14	24	14	26	18	21	25	49	47	64	42	41	36
TOTAL, SCIENCES	96	45	15	11	21	12	13	14	12	13	33	34	45	30	31	24
PHYSICAL SCIENCES	32	13	1	5	2	2	3	4	3	3	11	5	9	2	5	4
Physics/astronomy	17	9	-	4	2	2	1	-	1	2	2	3	3	1	3	2
Acoustics	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-
Astronomy(1)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Astrophysics(1)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atomic/molecular	1	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-
Electromagnetism(3)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	-	-	-	-	-	-	-	-	1	-	1	1	-	-	-	-
Fluids	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(5)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Optics	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Solid state	7	4	-	2	-	2	-	-	-	-	1	1	-	-	1	-
Physics, general	5	4	-	2	2	-	-	-	-	1	-	-	2	-	-	2
Physics, other	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemistry	15	4	1	1	-	-	2	4	2	1	9	2	6	1	2	2
Analytical	-	1	-	-	-	-	-	-	-	-	-	-	2	-	-	1
Inorganic	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organic	4	1	-	-	-	-	1	-	-	-	3	2	1	-	-	1
Pharmaceutical	2	-	1	1	-	-	-	-	-	1	1	-	-	-	-	-
Physical	1	1	-	-	-	-	-	2	-	-	1	-	-	-	-	-
Polymer	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-
Theoretical	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Chemistry, general	4	1	-	-	-	-	1	1	-	-	4	-	2	1	2	-
Chemistry, other	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
EARTH, ATMOS, OCEAN SCI	4	1	1	1	1	-	-	-	-	-	-	-	3	-	-	-
Environmental sciences(10)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geochemistry(11)	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Geology(12)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Geophysics/seismology(13)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oceanography	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earth sciences, general(17)	1	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
MATHEMATICS	5	2	2	-	2	1	2	1	-	1	1	1	1	1	2	-
Algebra	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Analysis/funct analysis(18)	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-
Applied mathematics	-	-	-	-	-	1	-	-	-	1	1	-	-	-	-	-
Computing theory	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Math probability/stat(19)	1	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Operations research	2	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-
Mathematics, general	1	1	1	-	-	-	1	1	-	-	-	-	1	-	-	-
Mathematics, other	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
COMPUTER & INFO SCI	-	-	-	-	1	-	-	-	-	-	1	2	5	1	2	-
Computer sciences	-	-	-	-	1	-	-	-	-	-	1	1	4	1	1	-
Information sci/systems(6)	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1	-

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS UNKNOWN RACE																
AGRIC & BIOL SCI	25	14	5	2	5	2	4	4	3	1	9	14	12	12	11	9
Agricultural sciences	5	2	1	2	-	1	-	1	1	1	5	5	5	5	2	4
Agronomy	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Animal breeding/genetics(21)	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-
Animal sci/nutrition(22)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal sciences, other(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Fisheries science(23)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Food sciences(24)	1	1	-	-	-	1	-	1	-	-	-	1	-	-	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Forestry science(25)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Horticulture science	1	-	-	-	-	-	-	-	-	-	-	1	-	2	-	1
Plant breeding/genetics(26)	-	-	-	-	-	-	-	-	-	-	1	1	-	1	-	-
Plant pathology(26)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Phytopathology(26)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Soil sciences(28)	-	-	1	1	-	-	-	-	1	-	2	-	-	-	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	3	1	-	-
Agriculture, other	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Biological sciences	20	12	4	-	5	1	4	3	2	-	4	9	7	7	9	5
Anatomy	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	1
Biochemistry	1	2	2	-	-	-	1	1	-	-	1	2	2	2	3	1
Biometrics/biostat	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Biophysics	2	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Cytology(30)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ecology	2	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-
Entomology	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Plant genetics(32)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Genetics(32)	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Pathology(33)	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	1
Animal physiology(34)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant physiology(34)	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-
Immunology	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Microbiology(35)	-	-	-	-	-	-	-	-	-	-	-	2	-	-	1	-
Microbiology/bacteriol(35)	6	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Molecular biology	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-
Neurosciences	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-
Nutritional sciences(36)	1	2	-	-	-	-	-	-	-	-	1	1	-	1	2	-
Toxicology(6)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-
Zoology, other(37)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Zoology(37)	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biological sci, general	1	-	-	-	-	-	1	-	-	-	-	1	1	-	2	-
Biological sci, other	2	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, PERMANENT VISAS UNKNOWN RACE																
SOCIAL SCIENCES	24	12	6	3	6	7	2	5	6	6	8	10	13	14	9	10
Agricultural economics	2	-	-	-	1	-	-	-	1	-	-	2	-	1	1	2
Anthropology	1	1	-	-	2	1	-	-	-	-	1	2	-	2	-	1
Area studies	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Econometrics	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Economics	6	3	3	2	1	3	1	2	-	3	4	1	4	2	2	3
Geography	1	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-
History of science(39)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
International relations	-	-	-	-	1	-	-	1	-	1	-	1	-	-	2	-
Linguistics	1	-	2	-	1	1	-	-	1	-	1	-	1	1	1	-
Pol sci/government(40)	-	-	-	-	-	-	-	-	2	1	2	-	2	3	2	-
Political science(40)	4	2	-	1	-	1	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Sociology	4	3	1	-	-	1	-	1	-	1	-	1	4	-	-	2
Statistics	-	-	-	-	-	-	-	-	1	-	-	-	-	1	1	-
Urban studies(41)	2	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1
Social sciences, general	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Social sciences, other	-	-	-	-	-	-	-	-	-	-	-	1	1	3	-	-
PSYCHOLOGY	6	3	-	-	4	-	2	-	-	2	3	2	2	-	2	1
Clinical	-	1	-	-	-	-	-	-	-	-	1	1	-	-	-	-
Counseling(43)	-	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-
Developmental(44)	-	-	-	-	1	-	-	-	-	1	1	-	-	-	1	-
Educational	2	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Experimental(42)	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Indust/organizational(45)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Physiological(42)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
School	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Social	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Psychology, general	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Psychology, other	-	-	-	-	3	-	-	-	-	-	-	-	-	-	1	1
TOTAL, ENGINEERING	58	12	4	3	3	2	13	4	9	12	16	13	19	12	10	12
Aerospace,aero/astronaut(46)	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-
Agricultural	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-	-
Bioengineering/biomed(47)	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-
Ceramic	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Chemical	10	-	-	1	-	-	-	1	-	-	2	2	2	1	-	1
Civil	7	5	-	-	-	2	-	-	2	1	1	-	2	3	3	-
Computer	3	-	-	-	-	-	1	-	-	-	-	-	1	-	-	2
Electrical/electronics(48)	-	-	-	-	-	-	-	1	2	2	1	4	3	4	2	4
Electrical(48)	8	3	1	-	-	-	5	-	-	-	-	-	-	-	-	-
Electronics(48)	1	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-
Engineering mechanics	1	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Environmental health eng(50)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Industrial	1	1	-	-	-	-	-	-	-	2	-	1	-	1	-	-
Materials science	2	-	1	-	1	-	1	-	-	1	1	-	1	1	-	-
Mechanical	14	1	-	-	-	-	4	1	-	3	5	2	4	2	-	2
Metallurgical(51)	5	-	1	-	-	-	-	-	-	-	-	-	1	-	-	1
Mining/mineral(52)	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Nuclear(49)	1	-	1	-	-	-	-	-	1	-	1	-	-	-	-	1
Operations research	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum(53)	-	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-
Polymer(6)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Systems(54)	1	-	-	1	1	-	-	-	-	1	-	-	2	-	-	-
Engineering, general	1	-	-	-	-	-	-	-	1	1	-	1	-	-	3	-
Engineering, other	-	-	-	-	-	-	-	-	-	-	-	1	2	-	1	-
TOTAL, NON-S&E(55)	52	21	14	21	8	10	12	8	9	8	26	22	13	20	20	18
TOTAL, ALL FIELDS	206	78	33	35	32	24	38	26	30	33	75	69	77	62	61	54

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS																
NATIVE AMERICAN																
TOTAL, S&E	-	2	1	1	-	-	-	-	-	-	1	1	-	-	-	-
TOTAL, SCIENCES	-	2	1	-	-	-	-	-	-	-	1	-	-	-	-	-
EARTH, ATMOS, OCEAN SCI	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geophysics/seismology(13)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AGRIC & BIOL SCI	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-
Biological sciences	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-
Immunology	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Nutritional sciences(36)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
PSYCHOLOGY	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Physiological(42)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL, ENGINEERING	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-
Civil	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Electrical/electronics(48)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
TOTAL, NON-S&E(55)	-	2	-	2	-	-	-	-	-	-	-	-	-	-	1	-
TOTAL, ALL FIELDS	-	4	1	3	-	-	-	-	-	-	1	1	-	-	1	-

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS																
ASIAN																
TOTAL, S&E	957	938	1,092	1,207	1,216	1,308	1,505	1,627	1,896	2,096	2,191	2,451	2,887	3,245	4,149	4,835
TOTAL, SCIENCES	632	655	734	799	768	815	940	999	1,147	1,245	1,353	1,493	1,763	1,980	2,653	3,062
PHYSICAL SCIENCES	189	193	221	239	255	276	310	306	356	369	476	505	591	641	786	880
Physics/astronomy	89	81	96	110	92	123	127	126	148	167	214	238	263	279	368	362
Acoustics	-	3	1	-	2	-	2	2	3	2	2	1	3	2	7	2
Astronomy(1)	1	-	-	2	1	1	2	1	2	5	-	6	4	4	7	5
Astrophysics(1)	1	3	3	4	2	1	1	-	4	4	4	7	2	9	8	14
Atomic/molecular	9	10	4	3	7	7	12	14	9	8	12	19	13	20	16	20
Electron(2)	-	-	-	-	-	-	-	-	2	-	1	-	-	-	2	1
Electromagnetism(3)	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	11	8	7	12	7	9	18	11	23	18	21	23	29	28	42	36
Fluids	-	1	3	-	2	2	2	2	2	3	1	6	3	2	2	3
Mechanics(4)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuclear(5)	9	7	11	13	8	11	8	9	6	11	19	14	17	13	17	13
Optics	2	-	3	6	8	6	3	13	8	12	7	9	13	16	23	17
Plasma	5	2	4	9	3	6	9	7	7	12	5	11	14	13	10	15
Polymer(6)	-	-	-	-	-	-	-	3	2	1	3	3	8	2	6	8
Solid state	20	28	28	32	26	40	29	33	40	53	79	82	70	90	110	136
Thermal(8)	1	1	3	1	-	2	-	-	-	-	-	-	-	-	-	-
Physics, general	19	11	23	18	22	30	31	23	31	20	47	40	70	54	84	62
Physics, other	9	7	6	9	4	8	10	8	9	18	13	17	17	26	34	30
Chemistry	100	112	125	129	163	153	183	180	208	202	262	267	328	362	418	518
Agricultural/food	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	6	5	5	10	12	12	12	19	25	20	29	36	39	51	42	56
Inorganic	9	11	9	10	10	12	16	12	19	17	28	23	25	36	38	53
Nuclear	2	3	-	2	1	-	2	2	2	-	2	1	1	-	3	1
Organic	33	25	44	47	65	44	61	62	57	63	58	74	97	94	65	128
Pharmaceutical	3	2	1	3	11	2	9	12	6	8	5	8	11	8	14	19
Physical	22	31	31	20	27	15	24	29	28	31	33	45	53	63	77	98
Polymer	5	10	4	10	13	19	15	11	12	20	16	25	29	25	28	48
Theoretical	2	3	2	4	4	4	4	8	5	3	8	5	6	14	10	8
Chemistry, general	10	18	24	16	16	39	29	14	40	30	67	42	55	59	129	98
Chemistry, other	6	3	4	6	4	6	11	11	14	10	16	8	12	12	12	9
EARTH, ATMOS, OCEAN SCI	29	31	20	26	26	21	34	44	45	57	50	57	70	57	101	99
Applied geology(9)	2	1	1	1	2	-	3	-	-	-	-	1	-	1	-	-
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	1	-	3	1	4	3	3	6	3
Atmos/meteorol sci, other	2	3	1	6	9	5	1	1	1	3	-	3	-	2	1	1
Atmospheric dynamics	1	4	1	2	3	2	5	3	4	3	2	4	3	4	7	10
Atmospheric phys/chem	1	-	1	1	1	1	-	1	2	1	1	2	3	1	7	8
Environmental sciences(10)	1	-	1	-	-	3	3	5	2	3	4	2	6	4	4	2
Geochemistry(11)	2	2	1	1	2	1	1	2	1	1	2	2	2	1	7	3
Geology(12)	-	-	-	-	-	-	-	2	7	7	2	8	10	3	11	16
Structural geology(12)	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-
Geomorph/glacial geology	-	-	-	-	1	-	-	1	1	-	1	-	-	-	-	1
Geophysics/seismology(13)	3	6	7	4	4	4	7	6	10	15	11	6	15	12	17	17
Geophysics(13)	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	-	3	1	1	1	1	3	1	-	2	-	-	3	5	3	3
Marine sciences(6)	-	-	-	-	-	-	-	1	2	1	1	5	4	2	4	3
Marine sciences, other(15)	-	-	-	1	-	2	2	-	-	-	-	-	-	-	-	-
Meteorology(16)	3	-	-	-	-	-	-	3	3	3	6	5	5	4	4	6
Minerology, petrology(11)	1	2	-	-	-	-	1	3	1	1	1	2	1	2	1	2
Oceanography	5	3	2	5	3	-	3	11	7	8	5	8	10	5	16	12
Paleontology	1	-	1	-	-	-	-	-	-	-	3	-	1	1	-	1
Stratigraphy, sediment	1	2	-	1	-	1	2	-	-	2	1	-	1	-	-	2
Geological sciences, gen(17)	-	-	-	-	-	-	-	1	-	-	1	2	-	5	6	1
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	3	-	-	2	-	1	1	4
Earth sciences, general(17)	1	1	1	1	-	1	1	-	-	-	-	-	-	-	-	-
Earth sciences, other(17)	-	4	1	-	-	-	2	-	-	-	-	-	-	-	-	-
Physical sciences, other(6)	-	-	-	-	-	-	-	2	1	4	8	1	3	1	6	4
MATHEMATICS	59	57	59	58	65	81	76	88	107	107	125	131	150	187	254	311
Algebra	5	3	7	5	7	6	6	5	10	8	6	12	12	14	10	14
Analysis/funct analysis(18)	11	15	7	8	8	9	13	15	12	10	7	10	9	20	25	44
Applied mathematics	6	6	7	10	8	12	12	7	10	25	24	24	31	42	48	65
Computing theory	5	5	1	1	1	-	2	2	2	1	4	2	2	3	1	3
Geometry	3	3	2	2	2	1	3	7	7	7	9	8	11	11	12	30
Logic	1	1	1	-	1	-	1	2	2	-	3	1	3	2	1	2
Math probability/stat(19)	19	14	17	23	21	27	23	24	32	36	30	33	36	46	63	79
Number theory	1	1	1	1	3	2	-	2	3	5	3	2	8	3	8	3
Operations research	-	3	2	-	6	9	5	2	7	2	8	3	5	4	10	2
Topology	3	3	2	1	1	5	2	2	7	1	5	1	6	8	11	15
Mathematics, general	5	3	6	7	6	6	6	12	12	9	19	30	24	22	59	44
Mathematics, other	-	-	6	-	1	4	3	8	3	3	7	5	3	12	6	10
COMPUTER & INFO SCI	-	-	12	12	14	12	30	31	51	49	68	86	114	120	192	237
Computer sciences	-	-	12	12	14	12	30	31	48	39	63	74	98	108	176	218
Information sci/systems(6)	-	-	-	-	-	-	-	-	3	10	5	12	16	12	16	19

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS																
ASIAN																
AGRIC & BIOL SCI	206	204	258	238	209	221	238	256	287	343	318	378	454	501	769	908
Agricultural sciences	78	85	109	100	87	104	97	113	106	124	122	118	131	149	210	216
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Agronomy	23	15	23	18	18	15	17	20	21	27	21	24	17	16	24	22
Animal breeding/genetics(21)	1	3	2	2	3	4	-	1	3	3	3	2	4	3	3	3
Animal nutrition(22)	-	-	-	-	-	-	-	2	5	6	3	6	3	6	6	3
Animal sci/nutrition(22)	6	9	11	12	6	7	6	-	-	-	-	-	-	-	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	6
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3
Animal sciences, other(22)	-	-	-	-	-	-	-	9	7	10	7	4	5	7	13	16
Fish/wildlife(23)	1	2	8	3	8	1	4	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	2	6	2	3	1	7	8	7	4
Wildlife management(23)	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	7	2
Food sciences(24)	12	21	17	18	13	21	24	22	27	25	37	33	4	-	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	9
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	35	32	49	46
Forestry science(25)	11	7	9	16	7	8	7	11	2	8	10	10	-	-	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	4	3	3	2
Forest engineering(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	2	3	2	5
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	3	5	6	4
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	2
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	2	6	15	8
Horticulture science	10	6	6	6	9	10	10	9	2	9	5	10	5	8	16	17
Plant breeding/genetics(26)	-	-	-	-	-	-	-	9	2	6	10	3	12	7	3	11
Plant pathology(26)	-	-	-	-	-	-	-	7	11	7	10	8	8	8	9	23
Phytopathology(26)	7	6	10	8	7	15	6	-	-	-	-	-	-	-	-	-
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Plant sciences, other(26)	-	-	-	-	-	-	-	4	2	1	4	3	3	3	5	3
Soil sciences(28)	4	10	12	11	5	14	14	13	5	13	7	7	-	-	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	4	4	8	7
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	6	11	6	13
Agriculture, general	1	4	1	-	-	1	-	1	-	-	-	-	3	1	2	2
Agriculture, other	2	2	10	6	11	8	9	2	13	6	2	7	2	6	13	5
Biological sciences	128	119	149	138	122	117	141	143	181	219	196	260	323	352	559	692
Anatomy	-	1	4	4	6	1	4	5	4	5	4	3	1	4	3	11
Biochemistry	33	28	43	35	34	26	31	27	45	46	49	60	89	87	116	152
Biometrics/biostat	1	2	3	-	2	1	2	3	5	4	5	2	7	3	6	13
Biophysics	5	9	4	9	3	4	8	6	8	4	7	12	13	14	31	34
Botany, other(29)	-	-	-	-	-	-	-	4	5	7	8	6	6	7	17	11
Botany(29)	6	4	8	4	3	1	6	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	3	5	3	4	5	10	7	14	26
Cytology(30)	-	1	1	-	1	1	-	-	-	-	-	-	-	-	-	-
Devel bio/embryology(31)	2	-	-	-	-	-	-	1	-	-	-	-	-	1	1	-
Ecology	-	3	2	2	2	1	2	2	2	2	7	1	5	9	4	10
Endocrinology(6)	-	-	-	-	-	-	-	2	1	2	2	3	3	2	1	4
Entomology	16	13	9	10	11	10	15	10	16	13	5	9	4	9	17	16
Human/animal genetics(32)	-	-	-	-	-	-	-	1	2	6	3	4	9	7	9	23
Plant genetics(32)	-	-	-	-	-	-	-	2	1	2	3	3	4	3	7	7
Genetics(32)	11	3	8	5	10	1	9	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	6	2	4	5	6	9	8	12	13
Plant pathology(33)	-	-	-	-	-	-	-	1	4	8	3	4	1	1	5	10
Pathology(33)	1	1	2	4	2	4	4	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	2	5	6	10	7	9	6	2	14	13	6	10	9	16	32	44
Human/animal physiol(34)	-	-	-	-	-	-	-	8	6	12	6	10	15	18	36	32
Animal physiology(34)	8	12	9	6	6	6	13	-	-	-	-	-	-	-	-	-
Plant physiology(34)	3	5	2	5	-	7	1	4	5	9	1	6	13	4	5	18
Immunology	5	4	2	3	2	4	6	11	4	3	8	14	6	6	12	19
Microbiology(35)	-	-	-	-	-	-	-	17	19	23	15	24	20	31	57	55
Bacteriology(35)	-	-	-	-	-	-	-	-	-	2	2	-	-	2	2	1
Microbiology/bacteriol(35)	14	5	14	9	8	13	11	-	-	-	-	-	-	-	-	-
Molecular biology	5	6	9	10	8	6	8	7	7	19	19	33	44	50	64	88
Neurosciences	-	-	-	-	-	-	-	5	4	2	3	6	5	10	19	19
Nutritional sciences(36)	5	7	5	6	-	5	6	6	6	13	9	13	10	19	21	14
Parasitology	-	-	2	-	-	1	-	1	1	1	-	-	3	-	1	3
Toxicology(6)	-	-	-	-	-	-	-	3	1	4	1	2	3	3	8	9
Zoology, other(37)	-	-	-	-	-	-	-	1	1	5	3	4	9	2	2	3
Zoology(37)	4	4	3	2	3	3	3	-	-	-	-	-	-	-	-	-
Biological sci, general	4	3	8	9	8	9	2	4	8	5	13	13	15	22	41	35
Biological sci, other	3	3	5	5	6	4	4	1	5	2	5	7	10	7	16	22

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS																
ASIAN																
SOCIAL SCIENCES	136	160	151	212	190	189	243	246	277	301	296	321	357	439	503	581
Agricultural economics	19	19	19	28	19	24	28	27	29	18	28	19	20	26	39	33
Anthropology	5	6	5	12	5	6	8	8	10	9	12	8	11	16	15	15
Area studies	-	-	-	-	-	3	-	-	2	3	2	-	-	1	3	4
Criminology(38)	-	-	-	-	1	-	-	2	5	2	-	1	5	1	2	5
Demography(6)	-	-	-	-	-	-	-	3	3	3	2	3	2	2	5	7
Econometrics	5	7	3	3	3	2	5	7	2	3	9	9	5	10	9	11
Economics	40	63	53	75	71	67	81	93	107	135	115	128	145	174	188	239
Geography	3	2	6	5	5	3	10	8	11	7	13	13	15	13	18	16
History of science(39)	-	-	1	-	-	-	-	-	1	2	-	1	-	1	4	4
International relations	10	1	7	4	10	4	7	4	5	5	7	1	10	9	17	6
Linguistics	8	12	13	15	13	17	19	15	17	24	21	37	25	26	37	51
Pol sci/government(40)	-	-	-	-	-	-	-	16	29	33	30	32	43	54	51	52
Political science(40)	14	19	12	25	14	14	29	-	-	-	-	-	-	-	-	-
Pol sci, public admin(40)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	6	2	2	5	9	6	7	14	24
Sociology	16	12	13	20	27	24	23	27	23	26	23	22	37	43	49	58
Statistics	5	7	9	8	7	9	6	10	14	20	13	16	15	30	30	18
Urban studies(41)	3	1	2	8	7	10	16	8	8	5	5	12	7	13	10	16
Social sciences, general	2	3	1	2	1	1	3	2	2	1	3	1	3	1	1	3
Social sciences, other	4	8	7	7	7	5	8	10	7	3	8	9	8	12	11	19
PSYCHOLOGY	13	10	13	14	9	15	9	28	24	19	20	15	27	35	48	46
Clinical	-	1	2	2	1	2	-	1	-	3	1	1	3	2	4	1
Cognitive(6)	-	-	-	-	-	-	-	-	4	2	-	1	6	4	2	5
Comparative(42)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
Counseling(43)	-	1	1	1	1	2	2	4	-	3	4	1	2	5	6	1
Developmental(44)	-	1	-	3	-	1	2	1	3	-	1	1	3	3	3	1
Educational	2	-	1	2	-	1	-	2	2	1	1	-	-	4	1	5
Experimental(42)	1	3	2	2	-	3	2	6	1	3	2	4	3	1	8	5
Indust/organizational(45)	1	-	1	-	1	-	-	2	1	-	-	-	3	2	-	2
Physiological(42)	-	2	2	1	-	-	1	4	-	-	-	2	1	1	3	3
Quantitative(6)	-	-	-	-	-	-	-	-	-	-	1	1	-	1	2	-
Personality	2	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
Psychometrics	-	-	1	1	1	1	-	-	-	1	-	-	-	-	1	3
School	1	-	-	-	-	-	-	-	-	1	1	-	-	-	-	1
Social	4	1	2	-	1	1	2	4	4	2	5	2	1	7	4	7
Psychology, general	2	1	-	2	-	3	-	1	2	1	3	2	4	1	7	9
Psychology, other	-	-	1	-	4	1	-	3	7	2	1	-	1	2	5	3
TOTAL, ENGINEERING	325	283	358	408	448	493	565	628	749	851	838	958	1,124	1,265	1,496	1,773
Aerospace,aero/astronaut(46)	6	16	16	21	20	19	23	25	42	29	42	37	32	54	54	60
Agricultural	4	4	9	21	17	16	11	7	19	15	13	16	12	24	27	39
Bioengineering/biomed(47)	2	1	5	3	2	4	4	4	5	4	4	7	13	17	21	31
Ceramic	5	1	1	4	7	6	3	7	7	5	5	9	9	11	15	19
Chemical	48	38	38	44	76	62	71	88	97	114	117	132	150	119	130	177
Civil	44	36	49	46	34	53	67	86	77	96	99	107	139	130	147	167
Communications(6)	-	-	-	-	-	-	-	2	2	6	5	9	3	5	12	9
Computer	15	7	5	19	18	14	22	24	13	19	24	21	42	52	53	77
Electrical/electronics(48)	-	-	-	-	-	-	-	94	142	160	151	157	234	270	331	399
Electrical(48)	62	47	60	59	64	77	112	15	1	-	-	-	-	-	-	-
Electronics(48)	11	9	7	11	11	7	8	1	-	-	-	-	-	-	-	-
Engineering mechanics	17	11	20	16	20	20	21	18	26	34	28	40	37	36	50	50
Engineering physics(49)	-	-	1	3	1	2	1	-	-	1	1	-	1	4	3	6
Engineering science(6)	-	-	-	-	-	-	-	10	6	8	3	4	7	9	9	10
Environmental health eng(50)	5	6	6	5	4	10	4	6	15	13	7	11	8	8	16	21
Industrial	10	8	6	13	10	9	19	17	25	29	34	37	38	67	56	58
Materials science	14	16	24	27	39	25	38	41	58	60	54	75	73	93	111	129
Mechanical	19	30	46	45	48	66	68	88	102	123	111	162	207	206	291	313
Metallurgical(51)	16	17	18	21	20	33	25	27	20	34	43	39	34	26	27	33
Mining/mineral(52)	1	-	-	1	1	-	-	2	4	4	6	6	6	12	13	11
Naval arch/marine engin(2)	-	-	-	-	-	-	-	2	1	4	-	-	3	4	-	3
Nuclear(49)	16	10	13	11	15	19	28	21	22	22	33	20	23	20	19	19
Ocean(6)	-	-	-	-	-	-	-	3	6	13	3	12	4	5	5	11
Operations research	9	4	8	9	7	17	13	6	9	12	9	7	6	21	9	29
Petroleum(53)	1	1	2	5	9	2	6	3	2	1	2	7	6	2	10	9
Polymer(6)	-	-	-	-	-	-	-	4	14	12	14	16	11	27	25	18
Systems(54)	7	10	9	4	11	14	7	10	15	16	9	11	9	3	12	16
Engineering, general	5	1	5	4	5	4	2	1	8	6	7	4	7	11	27	15
Engineering, other	8	10	10	16	9	14	12	16	11	11	14	12	10	29	23	44
TOTAL, NON-S&E(55)	174	180	219	256	256	256	324	379	399	430	454	482	629	659	780	904
TOTAL, ALL FIELDS	1,131	1,118	1,311	1,463	1,472	1,564	1,829	2,006	2,295	2,526	2,645	2,933	3,516	3,904	4,929	5,739

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS																
BLACK																
TOTAL, S&E	96	145	138	170	186	213	207	211	235	221	195	180	190	170	195	174
TOTAL, SCIENCES	81	126	117	136	147	174	174	173	184	183	170	149	154	147	160	152
PHYSICAL SCIENCES	10	7	13	14	14	12	18	16	22	19	19	17	17	13	6	27
Physics/astronomy	3	3	4	2	4	-	7	5	3	-	2	3	5	1	2	7
Astrophysics(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Atomic/molecular	-	-	1	-	-	-	1	-	1	-	1	-	-	-	-	1
Elementary particle	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
Nuclear(5)	-	-	-	-	1	-	-	-	1	-	-	-	2	-	-	-
Optics	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-
Plasma	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Solid state	1	1	3	2	1	-	1	2	-	-	1	1	1	-	1	2
Physics, general	1	1	-	-	-	-	2	3	1	-	-	-	1	-	-	1
Physics, other	-	1	-	-	-	-	1	-	-	-	-	1	1	1	-	1
Chemistry	7	4	9	12	10	12	11	11	19	19	17	14	12	12	4	20
Agricultural/food	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	-	1	1	1	2	-	1	-	5	6	1	3	3	2	2	6
Inorganic	-	1	2	2	2	-	3	2	1	-	4	3	1	3	-	3
Nuclear	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Organic	3	-	1	4	2	7	5	4	4	2	4	4	1	3	1	2
Pharmaceutical	1	1	-	1	-	1	-	2	1	1	2	-	3	-	-	1
Physical	1	-	2	1	3	2	2	-	2	4	2	3	3	1	-	1
Polymer	-	-	2	1	1	-	-	1	-	2	1	-	-	-	-	1
Theoretical	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemistry, general	-	1	-	2	-	1	-	1	2	3	3	-	1	2	1	5
Chemistry, other	1	-	-	-	-	1	-	1	3	1	-	1	-	1	-	1
EARTH, ATMOS, OCEAN SCI	5	3	3	3	4	8	7	11	6	2	3	1	4	3	3	1
Applied geology(9)	-	-	-	-	-	1	2	1	-	-	-	-	1	-	-	-
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Atmos/meteorol sci, other	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-
Environmental sciences(10)	-	1	-	-	-	2	-	3	-	-	-	-	-	1	1	-
Geochemistry(11)	-	-	1	-	-	-	4	-	-	-	-	1	-	1	-	-
Geology(12)	-	-	-	-	-	-	-	1	2	1	-	-	-	-	1	-
Geomorph/glacial geology	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Geophysics/seismology(13)	-	-	1	-	2	3	-	1	2	-	1	-	-	-	-	-
Geophysics(13)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	-	-	-	-	-	1	-	2	1	1	-	-	-	-	-	-
Marine sciences(6)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Meteorology(16)	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-
Minerology, petrology(11)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oceanography	-	-	1	2	-	-	-	1	-	-	-	-	-	-	-	-
Paleontology	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Stratigraphy, sediment	1	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Geological sciences, gen(17)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	-
Earth sciences, general(17)	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Earth sciences, other(17)	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
MATHEMATICS	2	5	2	1	2	9	6	2	4	4	6	7	4	5	9	4
Algebra	2	-	-	-	1	2	-	-	-	-	-	1	-	1	-	1
Analysis/funct analysis(18)	-	1	-	-	-	1	1	-	1	-	1	1	-	-	-	1
Applied mathematics	-	-	-	-	-	1	1	-	-	2	1	3	1	-	4	1
Math probability/stat(19)	-	3	2	-	-	3	2	1	3	1	1	-	-	2	2	-
Operations research	-	-	-	-	-	1	1	1	-	-	-	-	1	-	-	-
Topology	-	1	-	1	-	-	-	-	-	1	-	-	-	-	-	-
Mathematics, general	-	-	-	-	-	1	-	-	-	-	1	2	2	2	2	-
Mathematics, other	-	-	-	-	1	-	1	-	-	-	2	-	-	-	1	1
COMPUTER & INFO SCI	-	-	1	1	-	1	-	1	3	-	3	1	2	3	1	5
Computer sciences	-	-	1	1	-	1	-	1	2	-	3	1	2	3	1	3
Information sci/systems(6)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	2

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS																
BLACK																
AGRIC & BIOL SCI	28	43	39	53	68	79	65	61	72	73	65	45	63	57	65	55
Agricultural sciences	17	28	24	31	39	48	34	42	50	47	33	26	31	33	39	30
Agronomy	6	11	3	8	12	10	7	10	14	7	9	1	5	6	8	3
Animal breeding/genetics(21)	-	1	1	-	1	-	-	1	1	1	1	2	2	1	-	-
Animal nutrition(22)	-	-	-	-	-	-	-	1	5	3	2	2	2	-	1	2
Animal sci/nutrition(22)	4	1	4	4	4	12	5	-	-	-	-	-	-	-	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-
Animal sciences, other(22)	-	-	-	-	-	-	-	7	8	3	4	3	2	1	3	-
Fish/wildlife(23)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	5	-	-	1	-	-	1	-	-
Wildlife management(23)	-	-	-	-	-	-	-	-	1	1	-	-	1	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	3
Food sciences(24)	-	1	3	2	2	5	4	7	2	3	-	2	1	-	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	5	4	1	3
Forestry science(25)	1	1	-	1	1	2	-	3	3	3	1	1	-	-	-	-
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	1
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	1
Horticulture science	2	3	4	5	4	4	1	2	2	4	2	-	1	1	3	2
Plant breeding/genetics(26)	-	-	-	-	-	-	-	1	6	7	2	1	4	3	3	5
Plant pathology(26)	-	-	-	-	-	-	-	-	3	5	5	3	-	5	3	1
Phytopathology(26)	2	4	4	1	7	3	3	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-
Soil sciences(28)	2	3	3	6	5	5	5	3	3	5	5	4	-	-	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	2	2	8	5
Agriculture, general	-	-	1	3	-	1	-	-	-	1	-	-	1	1	-	-
Agriculture, other	-	3	1	1	3	6	8	2	2	4	1	6	1	-	-	1
Biological sciences	11	15	15	22	29	31	31	19	22	26	32	19	32	24	26	25
Anatomy	-	1	1	-	2	1	2	-	-	1	1	-	1	1	-	1
Biochemistry	1	2	-	5	3	3	4	4	2	3	2	2	2	2	1	3
Biometrics/biostat	1	-	1	-	-	1	1	-	1	-	3	-	-	-	-	2
Botany, other(29)	-	-	-	-	-	-	-	-	-	1	-	1	-	1	1	-
Botany(29)	1	1	2	1	4	-	-	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-
Cytology(30)	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Devel bio/embryology(31)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Ecology	-	-	-	-	1	-	2	1	-	1	-	-	2	2	-	-
Endocrinology(6)	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	1
Entomology	1	1	1	4	2	3	3	3	5	4	3	5	2	2	2	5
Human/animal genetics(32)	-	-	-	-	-	-	-	-	-	1	2	1	-	-	1	-
Plant genetics(32)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Genetics(32)	2	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	1	-	-	-	-	-	-	2	-
Plant pathology(33)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	2
Pathology(33)	-	1	-	-	1	1	3	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	2	2	2	1	3	4	-	-	2	1	2	-	4	2	2	2
Human/animal physiol(34)	-	-	-	-	-	-	-	-	1	2	2	2	5	1	1	1
Animal physiology(34)	-	2	1	1	1	2	2	-	-	-	-	-	-	-	-	-
Plant physiology(34)	-	1	1	2	-	2	1	-	-	-	2	-	-	-	-	-
Immunology	1	-	-	-	-	1	-	-	1	-	-	-	-	-	-	1
Microbiology(35)	-	-	-	-	-	-	-	2	2	3	6	-	3	4	4	1
Bacteriology(35)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Microbiology/bacteriol(35)	-	3	3	1	6	5	6	-	-	-	-	-	-	-	-	-
Molecular biology	-	-	-	1	-	-	1	1	-	1	-	-	1	1	1	-
Neurosciences	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Nutritional sciences(36)	1	-	2	2	4	4	3	6	2	4	2	2	4	2	2	2
Parasitology	-	-	-	2	1	2	2	-	-	1	1	1	-	2	1	2
Toxicology(6)	-	-	-	-	-	-	-	-	-	-	1	-	1	-	1	-
Zoology, other(37)	-	-	-	-	-	-	-	-	2	3	1	1	1	-	2	-
Zoology(37)	1	-	-	2	-	1	-	-	-	-	-	-	-	-	-	-
Biological sci, general	-	-	-	-	-	-	1	-	2	-	2	2	1	2	2	-
Biological sci, other	-	-	-	-	-	-	-	-	1	-	1	-	2	1	1	1

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS																
BLACK																
SOCIAL SCIENCES	34	66	57	59	57	62	73	81	76	82	71	74	58	62	70	56
Agricultural economics	3	6	8	9	9	9	18	16	13	11	10	12	3	7	6	6
Anthropology	1	1	4	6	2	2	7	3	2	3	2	-	3	2	1	-
Area studies	-	-	-	-	1	-	1	-	1	-	2	1	-	-	-	-
Criminology(38)	-	-	-	-	-	-	-	-	1	3	-	1	1	-	-	2
Demography(6)	-	-	-	-	-	-	-	5	3	5	2	6	3	1	2	4
Econometrics	-	-	-	-	-	1	1	-	-	-	-	-	-	1	-	-
Economics	12	14	8	11	17	15	12	15	16	18	10	16	15	15	24	6
Geography	3	2	5	4	4	6	1	5	3	3	5	3	3	2	1	2
International relations	4	2	4	3	2	4	4	4	7	2	5	5	2	4	6	2
Linguistics	1	9	4	3	6	2	1	4	4	3	7	4	7	4	3	6
Pol sci/government(40)	-	-	-	-	-	-	-	12	14	16	7	9	10	9	9	14
Political science(40)	5	11	12	10	3	6	12	-	-	-	-	-	-	-	-	-
Pol sci, public admin(40)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	-	1	5	3	-	-	2	2	1
Sociology	2	11	5	7	8	10	7	9	6	7	10	9	4	9	14	6
Statistics	-	2	1	-	-	1	1	-	-	2	1	-	1	2	1	-
Urban studies(41)	-	6	2	3	2	6	4	6	3	2	2	2	3	2	-	2
Social sciences, general	-	-	-	-	2	-	-	-	1	-	3	4	-	-	-	1
Social sciences, other	2	2	4	3	1	-	4	2	1	2	2	2	3	2	1	4
PSYCHOLOGY	2	2	2	5	2	3	5	1	1	3	3	4	6	4	6	4
Clinical	1	1	2	1	1	1	-	-	-	2	1	1	1	2	1	2
Cognitive(6)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Counseling(43)	1	-	-	1	1	-	-	-	-	-	-	-	1	1	1	1
Developmental(44)	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-
Educational	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-
Experimental(42)	-	1	-	-	-	-	-	-	-	-	-	-	1	1	-	-
Indust/organizational(45)	-	-	-	-	-	-	2	-	-	-	-	-	-	-	1	-
Psychometrics	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-
School	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Social	-	-	-	2	-	1	1	1	-	-	-	1	1	-	-	-
Psychology, general	-	-	-	1	-	-	-	-	-	-	1	1	-	-	1	1
Psychology, other	-	-	-	-	-	-	1	-	-	-	-	-	-	-	2	-
TOTAL, ENGINEERING	15	19	21	34	39	39	33	38	51	38	25	31	36	23	35	22
Aerospace,aero/astronaut(46)	1	1	3	1	-	1	-	1	1	-	1	-	-	-	2	-
Agricultural	1	2	-	3	4	5	3	4	5	4	-	1	4	-	4	2
Bioengineering/biomed(47)	-	-	-	1	-	-	-	-	1	1	-	-	-	1	-	1
Ceramic	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Chemical	-	3	1	3	5	1	6	1	9	-	1	2	3	1	2	3
Civil	2	5	4	8	6	4	10	7	9	8	9	15	5	5	9	6
Communications(6)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Computer	-	-	-	-	1	-	1	-	1	-	-	1	-	-	-	1
Electrical/electronics(48)	-	-	-	-	-	-	-	4	2	5	4	3	4	6	8	2
Electrical(48)	2	2	1	5	3	3	2	1	-	-	-	-	-	-	-	-
Electronics(48)	-	-	1	-	1	-	1	-	-	-	-	-	-	-	-	-
Engineering mechanics	-	2	-	3	3	2	-	1	1	2	-	-	-	-	-	-
Engineering physics(49)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Engineering science(6)	-	-	-	-	-	-	-	-	1	-	-	-	1	1	1	-
Environmental health eng(50)	1	1	-	-	-	-	-	-	2	-	-	-	-	-	1	-
Fuel tech/petro eng(9)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	1	-	2	1	2	2	1	3	2	3	-	-	2	-	-	-
Materials science	1	-	-	-	2	1	-	1	5	-	-	2	5	2	-	1
Mechanical	3	2	2	1	7	8	3	3	3	6	6	2	4	3	3	2
Metallurgical(51)	2	1	2	2	3	2	2	3	2	1	2	1	1	-	1	-
Mining/mineral(52)	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	1
Nuclear(49)	-	-	-	-	-	2	-	1	1	2	2	-	3	-	-	1
Operations research	-	-	2	1	1	2	1	1	1	1	-	2	-	-	1	-
Petroleum(53)	1	-	1	3	-	5	-	4	2	3	-	1	1	1	2	-
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Systems(54)	-	-	1	1	-	-	-	1	-	-	-	-	2	-	-	-
Engineering, general	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-
Engineering, other	-	-	-	1	-	1	3	1	1	1	-	1	-	1	1	1
TOTAL, NON-S&E(55)	59	104	132	150	145	159	166	152	184	174	118	125	101	103	95	95
TOTAL, ALL FIELDS	155	249	270	320	331	372	373	363	419	395	313	305	291	273	290	269

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS HISPANIC																
TOTAL, S&E	76	197	222	273	260	319	226	256	248	284	290	289	292	311	299	352
TOTAL, SCIENCES	64	156	177	212	211	243	174	185	202	220	230	226	231	241	225	285
PHYSICAL SCIENCES	7	24	33	22	21	30	24	34	35	45	48	39	34	28	33	37
Physics/astronomy	5	10	14	8	13	14	16	20	16	20	26	19	17	13	16	17
Acoustics	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Astronomy(1)	-	-	-	1	1	2	-	1	-	-	1	-	1	1	3	1
Astrophysics(1)	-	1	-	-	-	-	1	2	-	-	2	1	-	-	-	1
Atomic/molecular	-	-	-	-	-	1	-	-	-	-	2	-	1	-	-	-
Elementary particle	-	1	7	-	2	2	2	3	2	8	4	5	1	2	4	4
Fluids	-	-	-	-	-	2	1	-	-	1	-	2	1	-	-	-
Nuclear(5)	1	-	2	-	-	-	1	1	1	2	4	1	1	2	1	1
Optics	-	-	-	-	-	-	1	1	-	-	-	1	-	1	-	-
Plasma	1	1	-	-	-	-	1	1	1	-	1	4	1	-	-	1
Polymer(6)	-	-	-	-	-	-	-	-	2	-	1	-	-	-	-	-
Solid state	2	-	3	2	3	4	5	3	4	4	3	1	6	4	1	2
Physics, general	1	5	1	2	2	3	1	7	3	4	5	2	4	1	4	7
Physics, other	-	2	1	3	5	-	3	1	3	1	3	2	1	2	2	-
Chemistry	2	14	19	14	8	16	8	14	19	25	22	20	17	15	17	20
Analytical	-	-	2	2	-	1	-	-	2	1	2	3	2	-	1	3
Inorganic	-	3	3	-	2	-	-	3	2	3	-	2	1	2	-	3
Nuclear	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-
Organic	-	2	6	3	3	4	4	2	8	8	5	4	3	3	2	5
Pharmaceutical	-	2	-	-	-	2	-	-	-	-	1	-	-	-	1	-
Physical	2	2	4	5	1	6	1	2	4	6	5	5	4	4	2	4
Polymer	-	-	1	1	-	-	-	1	-	1	-	2	1	1	1	-
Theoretical	-	2	-	-	-	-	1	1	1	-	-	1	2	1	-	1
Chemistry, general	-	2	2	3	1	1	2	2	-	4	8	2	3	3	8	3
Chemistry, other	-	1	1	-	1	2	-	3	1	2	1	1	1	1	1	1
EARTH, ATMOS, OCEAN SCI	4	5	6	10	16	6	8	11	11	8	2	17	12	14	8	10
Applied geology(9)	-	-	-	-	1	-	1	-	-	1	-	-	-	-	-	-
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-
Atmos/meteorol sci, other	-	1	-	1	2	-	-	-	-	-	-	1	-	1	-	-
Atmospheric dynamics	-	-	-	1	1	-	-	-	-	-	-	-	-	1	-	-
Atmospheric phys/chem	-	-	1	-	-	-	-	-	-	-	1	-	2	1	-	-
Environmental sciences(10)	-	1	-	-	-	-	1	-	2	1	-	-	-	-	-	1
Geochemistry(11)	-	-	-	-	-	-	-	1	-	-	-	2	-	1	-	-
Geology(12)	-	-	-	-	-	-	-	3	1	-	-	2	1	1	-	3
Geomorph/glacial geology	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Geophysics/seismology(13)	-	1	-	3	4	2	-	3	3	1	1	6	2	1	1	2
Geophysics(13)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	1	1	-	-	2	1	2	1	1	2	-	2	-	1	-	-
Marine sciences(6)	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1	1
Meteorology(16)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Minerology, petrology(11)	-	-	-	1	1	-	1	-	-	-	-	-	-	1	-	-
Oceanography	-	-	3	4	1	1	2	2	2	-	-	1	2	3	5	1
Paleontology	-	-	-	-	-	-	-	-	1	1	-	1	-	-	-	-
Stratigraphy, sediment	1	-	1	-	-	-	-	1	-	-	-	-	1	1	-	-
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	-
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	1
Earth sciences, general(17)	1	1	-	-	1	1	1	-	-	-	-	-	-	-	-	-
Earth sciences, other(17)	-	-	1	-	3	1	-	-	-	-	-	-	-	-	-	-
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
MATHEMATICS	5	16	20	19	11	19	17	19	27	19	26	23	24	19	20	33
Algebra	2	-	-	-	1	1	-	-	1	2	5	4	3	-	-	-
Analysis/funct analysis(18)	-	1	5	5	2	5	3	2	5	2	5	6	2	5	4	6
Applied mathematics	-	5	6	6	2	2	3	4	3	4	3	4	5	4	2	4
Computing theory	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geometry	-	-	2	1	-	-	2	2	-	1	1	-	1	4	-	1
Logic	-	-	1	-	-	-	-	1	2	-	-	2	-	1	1	1
Math probability/stat(19)	2	2	2	1	1	5	5	6	5	5	8	2	5	4	6	3
Number theory	1	1	-	-	-	-	1	1	-	-	-	1	-	-	-	2
Operations research	-	-	-	1	1	1	-	1	1	1	-	-	-	-	-	-
Topology	-	2	-	-	1	1	1	2	1	-	1	1	-	-	1	3
Mathematics, general	-	2	4	5	3	4	-	-	5	2	1	2	6	1	6	12
Mathematics, other	-	2	-	-	-	-	2	-	4	2	2	1	2	-	-	1
COMPUTER & INFO SCI	-	1	1	3	3	2	3	6	2	2	5	6	5	6	9	13
Computer sciences	-	1	1	3	3	2	3	6	2	2	5	6	4	6	8	13
Information sci/systems(6)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS																
HISPANIC																
AGRIC & BIOL SCI	33	63	65	102	104	117	82	80	67	101	78	97	109	111	105	117
Agricultural sciences	17	36	41	59	62	70	44	38	43	61	42	44	64	55	55	58
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Agronomy	4	5	6	17	12	24	13	5	6	4	8	8	12	9	7	6
Animal breeding/genetics(21)	-	1	-	1	1	-	1	1	1	1	-	2	3	2	-	1
Animal nutrition(22)	-	-	-	-	-	-	-	4	4	9	4	2	3	1	2	6
Animal sci/nutrition(22)	3	6	12	6	12	17	4	-	-	-	-	-	-	-	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
Animal sciences, other(22)	-	-	-	-	-	-	-	5	5	4	4	4	6	6	8	5
Fish/wildlife(23)	-	1	-	-	1	-	1	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	1	2	-	-	-	2	3	2	1
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	2
Food sciences(24)	-	5	1	4	9	13	4	3	5	5	5	5	1	-	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	7	10	3	5
Forestry science(25)	-	-	3	1	5	2	3	2	1	3	2	3	-	-	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	2
Horticulture science	1	2	3	2	4	3	-	3	2	4	2	-	3	2	2	6
Plant breeding/genetics(26)	-	-	-	-	-	-	-	2	5	9	8	6	7	4	5	7
Plant pathology(26)	-	-	-	-	-	-	-	5	-	7	2	4	4	1	7	5
Phytopathology(26)	3	5	5	6	4	3	7	-	-	-	-	-	-	-	-	-
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Plant sciences, other(26)	-	-	-	-	-	-	-	-	2	2	2	1	1	-	1	-
Soil sciences(28)	4	8	7	11	6	5	3	5	8	7	3	7	3	-	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	5	5	8	4
Agriculture, general	-	1	-	2	-	-	3	1	-	-	1	-	-	-	-	-
Agriculture, other	2	2	4	9	8	3	5	1	2	6	1	2	-	2	3	1
Biological sciences	16	27	24	43	42	47	38	42	24	40	36	53	45	56	50	59
Anatomy	-	1	3	-	-	-	1	1	-	-	1	1	-	1	-	-
Biochemistry	3	2	6	3	4	2	1	2	2	4	4	7	3	8	5	7
Biometrics/biostat	1	2	1	-	1	-	1	-	1	-	-	-	1	-	1	2
Biophysics	-	1	-	2	3	5	4	2	1	-	-	-	1	3	-	2
Botany, other(29)	-	-	-	-	-	-	-	-	1	3	-	3	3	4	3	1
Botany(29)	3	-	-	4	4	6	4	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	1	-	1	-	1	3	-	1	2
Cytology(30)	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-
Ecology	-	-	2	2	1	3	2	3	2	5	7	3	5	4	7	2
Endocrinology(6)	-	-	-	-	-	-	-	1	-	-	1	-	-	3	-	1
Entomology	3	4	1	11	7	5	2	6	2	6	4	6	5	4	4	4
Human/animal genetics(32)	-	-	-	-	-	-	-	1	-	-	-	1	-	-	4	-
Plant genetics(32)	-	-	-	-	-	-	-	3	1	2	-	-	1	1	-	-
Genetics(32)	2	2	2	3	1	6	2	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	-	1	1	-	2	-	2	-	3
Plant pathology(33)	-	-	-	-	-	-	-	1	1	-	-	3	1	1	2	3
Pathology(33)	-	3	-	4	-	2	-	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	1	-	2	-	1	-	1	1	1	-	1	4	-	3	-	3
Human/animal physiol(34)	-	-	-	-	-	-	-	3	2	1	3	3	1	1	5	2
Animal physiology(34)	-	1	1	2	2	2	4	-	-	-	-	-	-	-	-	-
Plant physiology(34)	-	1	-	2	3	1	1	4	2	1	-	1	2	1	-	3
Immunology	-	1	-	-	1	1	1	2	-	1	-	3	2	-	2	4
Microbiology(35)	-	-	-	-	-	-	-	4	1	2	6	3	1	4	3	3
Bacteriology(35)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Microbiology/bacteriol(35)	-	1	3	3	3	5	6	-	-	-	-	-	-	-	-	-
Molecular biology	-	1	1	2	1	-	2	-	1	2	-	1	1	4	-	4
Neurosciences	-	-	-	-	-	-	-	2	1	3	-	2	2	2	-	-
Nutritional sciences(36)	-	4	2	2	2	3	2	2	1	2	1	1	5	1	1	4
Parasitology	-	1	-	-	3	-	2	-	-	1	1	-	1	-	1	1
Toxicology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Zoology, other(37)	-	-	-	-	-	-	-	2	1	-	1	1	2	-	2	2
Zoology(37)	1	1	-	-	2	2	1	-	-	-	-	-	-	-	-	-
Biological sci, general	2	1	-	1	3	2	1	1	2	2	3	4	4	9	5	5
Biological sci, other	-	-	-	2	-	-	-	-	-	3	3	2	1	-	2	1

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS																
HISPANIC																
SOCIAL SCIENCES	13	44	49	47	50	62	37	28	48	41	60	35	42	54	42	63
Agricultural economics	9	9	8	9	11	16	7	4	5	5	2	2	6	4	-	10
Anthropology	1	1	3	1	1	3	-	2	2	2	5	2	1	4	2	5
Area studies	-	-	-	-	1	-	-	-	1	-	1	-	-	-	-	1
Demography(6)	-	-	-	-	-	-	-	1	-	2	-	1	1	-	-	2
Econometrics	-	1	1	-	1	-	-	-	2	-	-	2	1	1	-	-
Economics	1	16	25	20	21	24	18	10	22	19	32	21	18	30	25	27
Geography	-	-	3	-	1	1	1	-	2	1	4	-	-	-	-	1
International relations	-	-	-	1	-	2	2	1	2	1	1	-	-	-	-	2
Linguistics	1	2	2	-	2	6	2	3	3	2	3	-	2	5	2	3
Pol sci/government(40)	-	-	-	-	-	-	-	1	-	2	1	2	2	1	1	4
Political science(40)	-	2	3	6	5	1	2	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Sociology	-	8	3	5	5	6	1	3	4	4	3	2	7	8	7	5
Statistics	1	2	-	1	1	1	2	1	2	3	4	-	-	-	3	-
Urban studies(41)	-	2	1	2	1	1	2	-	1	-	2	-	1	-	-	-
Social sciences, general	-	-	-	1	-	-	-	-	-	-	-	1	2	-	-	1
Social sciences, other	-	1	-	1	-	1	-	2	2	-	2	2	1	1	-	2
PSYCHOLOGY	2	3	3	9	6	7	3	7	12	4	11	9	5	9	8	12
Clinical	-	-	-	1	2	-	-	1	1	-	1	3	3	-	2	2
Cognitive(6)	-	-	-	-	-	-	-	-	1	-	-	1	-	2	1	-
Counseling(43)	-	-	1	1	-	-	-	-	1	-	1	-	-	-	-	1
Developmental(44)	-	-	-	1	-	1	-	1	2	-	2	2	-	-	-	1
Educational	-	-	-	1	-	1	-	-	1	-	-	1	-	3	-	2
Experimental(42)	-	2	1	2	1	1	-	1	2	-	3	-	-	1	-	2
Indust/organizational(45)	-	1	-	-	1	-	-	-	-	1	-	1	-	-	-	1
Physiological(42)	-	-	-	-	-	1	-	1	1	-	-	-	-	-	-	-
Quantitative(6)	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Psychometrics	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
School	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Social	-	-	1	1	-	-	2	1	1	-	2	-	-	1	-	-
Psychology, general	-	-	-	1	2	2	-	2	1	1	2	1	1	-	3	2
Psychology, other	1	-	-	-	-	1	1	-	1	1	-	-	1	2	2	-
TOTAL, ENGINEERING	12	41	45	61	49	76	52	71	46	64	60	63	61	70	74	67
Aerospace,aero/astronaut(46)	-	1	-	-	-	4	-	1	1	1	1	2	2	1	1	1
Agricultural	-	-	2	3	2	10	1	4	5	3	2	5	2	3	3	1
Bioengineering/biomed(47)	-	-	-	-	1	-	-	-	1	3	2	1	1	2	1	3
Ceramic	-	-	-	-	-	1	1	-	-	-	1	-	-	1	-	2
Chemical	3	6	11	11	5	12	8	16	7	12	8	7	12	11	8	9
Civil	-	7	10	11	8	10	4	9	7	9	12	14	16	11	13	11
Communications(6)	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-
Computer	1	1	3	3	-	2	4	1	-	-	-	-	1	-	-	2
Electrical/electronics(48)	-	-	-	-	-	-	-	7	8	9	6	6	5	9	10	16
Electrical(48)	2	3	5	8	5	5	6	1	-	-	-	-	-	-	-	-
Electronics(48)	-	6	-	2	-	-	3	-	-	-	-	-	-	-	-	-
Engineering mechanics	-	-	2	1	1	-	1	-	2	1	2	1	1	2	2	2
Engineering physics(49)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Engineering science(6)	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-
Environmental health eng(50)	-	1	1	1	-	1	5	1	-	-	1	1	2	-	2	2
Fuel tech/petro eng(9)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	1	-	-	-	1	1	-	4	1	4	-	3	4	8	1	3
Materials science	-	2	2	3	4	3	3	6	-	2	4	2	-	-	3	-
Mechanical	-	3	1	3	6	7	4	5	4	4	7	7	5	8	12	3
Metallurgical(51)	2	-	2	3	5	4	4	2	1	3	1	2	2	2	3	3
Mining/mineral(52)	-	-	-	-	-	-	-	2	-	-	2	1	-	3	1	-
Nuclear(49)	1	1	2	2	4	6	3	3	3	6	1	-	1	3	3	1
Ocean(6)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-
Operations research	1	2	2	3	-	4	3	2	-	-	3	3	-	1	2	1
Petroleum(53)	-	1	-	1	2	-	1	2	2	1	2	-	2	-	1	-
Polymer(6)	-	-	-	-	-	-	-	-	-	1	-	1	1	1	-	1
Systems(54)	1	-	1	2	3	3	-	1	2	1	2	2	-	-	2	-
Engineering, general	-	1	1	1	-	-	-	2	1	-	-	-	1	-	2	3
Engineering, other	-	4	-	3	2	3	1	2	1	3	3	4	2	2	3	2
TOTAL, NON-S&E(55)	17	35	67	75	68	70	68	86	52	76	82	49	57	53	85	79
TOTAL, ALL FIELDS	93	232	289	348	328	389	294	342	300	360	372	338	349	364	384	431

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS WHITE																
TOTAL, S&E	1,013	1,065	986	863	918	994	1,014	1,128	1,073	1,139	1,139	1,171	1,267	1,380	1,492	1,592
TOTAL, SCIENCES	748	726	667	587	634	690	686	753	726	778	791	796	856	889	943	1,073
PHYSICAL SCIENCES	145	132	113	113	115	101	132	160	125	153	170	186	183	171	173	223
Physics/astronomy	83	79	61	70	65	55	80	94	80	85	102	109	109	114	112	141
Acoustics	-	-	-	2	-	1	1	-	3	-	1	3	-	1	-	1
Astronomy(1)	6	2	1	3	1	2	2	3	4	1	5	4	5	3	2	5
Astrophysics(1)	7	3	7	2	6	2	4	5	3	3	4	3	5	8	9	7
Atomic/molecular	6	4	6	2	2	3	10	4	4	6	5	3	5	7	8	4
Electron(2)	-	-	-	-	-	-	-	-	-	1	-	-	-	2	-	-
Electromagnetism(3)	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Elementary particle	15	15	12	8	13	10	12	23	15	17	22	25	28	13	17	22
Fluids	1	1	-	-	2	1	1	-	-	1	2	2	2	1	1	-
Nuclear(5)	9	6	3	6	6	4	5	9	5	9	11	6	12	6	6	9
Optics	4	4	4	4	1	5	5	4	4	1	4	2	1	6	5	4
Plasma	3	5	5	4	5	3	3	8	4	3	6	4	2	6	3	3
Polymer(6)	-	-	-	-	-	-	-	1	-	2	-	2	1	1	-	2
Solid state	14	16	10	9	10	12	12	14	20	18	20	20	15	23	14	38
Physics, general	11	14	11	21	16	10	19	18	13	16	16	21	26	27	39	28
Physics, other	7	9	1	8	3	2	6	5	5	7	6	14	7	10	8	18
Chemistry	62	53	52	43	50	46	52	66	45	68	68	77	74	57	61	82
Agricultural/food	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Analytical	7	2	4	5	3	6	4	8	5	8	9	12	4	5	5	4
Inorganic	2	7	7	1	8	5	8	6	5	16	10	8	14	11	7	11
Nuclear	1	-	-	-	1	1	3	-	2	1	1	-	-	-	-	-
Organic	11	17	7	10	10	7	13	16	11	11	13	20	20	14	9	19
Pharmaceutical	2	3	1	-	2	2	2	2	-	-	2	5	4	-	1	3
Physical	15	7	9	7	7	9	6	19	12	11	11	8	11	9	8	11
Polymer	3	1	4	9	2	3	2	2	2	-	1	3	2	1	1	5
Theoretical	2	2	3	3	3	2	3	1	1	2	3	1	4	3	3	3
Chemistry, general	16	10	14	4	12	9	6	8	5	14	13	15	12	8	26	19
Chemistry, other	3	4	2	3	2	2	5	4	2	5	5	5	3	6	1	7
EARTH, ATMOS, OCEAN SCI	39	53	35	25	31	43	31	34	39	45	42	40	41	44	54	63
Applied geology(9)	2	2	-	-	2	3	1	1	1	-	-	2	-	-	-	-
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	2	1	-	-	1	-	3	2	-
Atmos/meteorol sci, other	2	4	-	2	1	6	2	1	2	-	2	1	-	-	-	1
Atmospheric dynamics	1	2	1	2	2	1	-	1	3	2	4	-	4	-	-	2
Atmospheric phys/chem	1	1	-	-	-	-	-	1	-	-	-	1	2	2	1	1
Environmental sciences(10)	2	2	-	1	3	4	2	1	1	2	-	1	-	2	2	1
Geochemistry(11)	4	1	2	5	4	-	2	-	4	8	4	1	3	3	3	5
Geology(12)	-	-	-	-	-	-	-	9	11	13	3	5	6	9	10	8
Structural geology(12)	1	3	1	3	-	-	1	-	-	-	-	-	-	-	-	-
Geomorph/glacial geology	1	1	-	-	2	1	2	-	-	-	-	1	1	-	1	-
Geophysics/seismology(13)	5	6	3	2	6	3	6	4	-	5	8	12	5	6	11	16
Geophysics(13)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	3	4	8	1	2	5	1	4	1	1	1	3	5	2	1	1
Marine sciences(6)	-	-	-	-	-	-	-	1	2	1	2	-	1	3	3	5
Marine sciences, other(15)	-	-	-	1	-	1	4	-	-	-	-	-	-	-	-	-
Meteorology(16)	2	-	-	-	-	-	-	-	2	2	4	1	6	-	1	4
Minerology, petrology(11)	-	2	-	-	-	2	1	1	-	2	-	-	1	1	2	1
Oceanography	2	9	8	-	2	5	2	2	4	4	[illegible]	4	4	5	11	6
Paleontology	2	-	-	1	1	-	-	-	2	-	[illegible]	1	1	-	1	1
Stratigraphy, sediment	4	6	2	2	2	4	-	4	1	1	[illegible]	1	1	2	-	2
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	1	1	1	2	-	1	1	2
Geological sciences, oth(17)	-	-	-	-	-	-	-	1	2	3	1	2	-	4	4	4
Earth sciences, general(17)	4	4	6	1	3	6	4	-	-	-	-	-	-	-	-	-
Earth sciences, other(17)	1	6	4	4	1	2	3	-	-	-	-	-	-	-	-	-
Physical sciences, other(6)	-	-	-	-	-	-	-	1	1	-	1	1	1	1	-	3
MATHEMATICS	84	71	68	66	58	71	84	90	88	97	101	102	107	121	119	110
Algebra	6	7	6	5	1	5	6	10	9	11	8	4	5	5	4	8
Analysis/funct analysis(18)	9	14	5	8	6	14	12	11	10	14	18	17	9	19	14	19
Applied mathematics	11	6	10	12	8	11	8	14	12	14	18	16	23	21	29	25
Computing theory	10	5	6	2	-	3	1	1	3	1	1	1	1	-	2	1
Geometry	4	4	-	1	2	1	3	8	3	4	4	6	10	4	10	8
Logic	2	3	2	3	-	1	-	1	5	6	3	4	5	3	4	2
Math probability/stat(19)	17	8	16	12	16	15	21	15	24	19	13	16	26	15	14	19
Number theory	-	2	-	-	3	1	2	3	4	2	-	1	7	2	3	3
Operations research	4	5	6	9	4	2	8	6	3	5	3	5	5	4	5	3
Topology	8	5	4	4	4	4	2	5	3	6	7	7	1	5	4	3
Mathematics, general	12	10	10	10	9	9	18	9	8	9	18	19	9	37	23	17
Mathematics, other	1	2	3	-	5	5	3	7	4	6	8	6	6	6	7	2
COMPUTER & INFO SCI	-	1	9	15	23	23	26	33	30	31	39	40	44	42	59	78
Computer sciences	-	1	9	15	23	23	26	30	24	25	33	32	39	40	55	74
Information sci/systems(6)	-	-	-	-	-	-	-	3	6	6	6	8	5	2	4	4

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS																
WHITE																
AGRIC & BIOL SCI	176	193	164	141	182	171	185	191	189	210	188	191	220	234	266	296
Agricultural sciences	72	70	76	63	90	93	69	97	83	96	90	69	91	84	92	86
Agric business & mgmt(20)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Agronomy	16	12	11	13	19	10	12	23	13	16	13	7	15	12	9	14
Animal breeding/genetics(21)	2	2	1	1	-	-	1	2	2	4	4	3	3	2	3	2
Animal nutrition(22)	-	-	-	-	-	-	-	4	6	7	5	4	4	6	2	1
Animal sci/nutrition(22)	10	7	6	9	7	17	12	-	-	-	-	-	-	-	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2
Animal sciences, other(22)	-	-	-	-	-	-	-	9	4	9	5	8	5	8	8	7
Fish/wildlife(23)	2	2	-	1	2	1	-	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	1	1	-	1	2	2	1	1	4
Wildlife management(23)	-	-	-	-	-	-	-	5	2	2	2	1	-	-	-	-
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	4	3	2	4
Food sciences(24)	8	12	11	11	13	10	9	10	8	15	8	7	4	-	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	8	9	9	10
Forestry science(25)	8	2	7	3	5	8	3	4	5	5	7	6	1	-	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5	-
Forest engineering(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Forest management(25)	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	1
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	1
Renewable natrl resrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	1
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	4	5	3	1
Horticulture science	4	4	8	3	10	13	8	6	8	7	4	4	10	4	9	6
Plant breeding/genetics(26)	-	-	-	-	-	-	-	5	3	3	11	7	4	2	9	4
Plant pathology(26)	-	-	-	-	-	-	-	10	5	3	7	5	4	7	2	12
Phytopathology(26)	6	7	8	3	17	6	8	-	-	-	-	-	-	-	-	-
Plant protectn-pest mgmt(27)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	-	4	1	3	1	1	2	2
Soil sciences(28)	10	9	16	9	11	15	7	13	21	11	18	7	3	-	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	3	1	1	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	9	11	12	10
Agriculture, general	2	1	1	-	-	1	-	2	-	-	1	1	1	-	2	-
Agriculture, other	4	12	7	10	6	12	9	3	5	10	3	4	1	1	1	2
Biological sciences	104	123	88	78	92	78	116	94	106	114	98	122	129	150	174	210
Anatomy	1	2	-	1	1	1	2	1	3	5	1	3	2	2	4	3
Biochemistry	15	19	15	8	11	10	11	16	12	12	14	17	13	25	18	20
Biometrics/biostat	3	5	1	3	3	4	3	1	2	2	1	4	2	2	4	5
Biophysics	2	6	1	2	2	3	3	3	-	3	3	6	3	2	4	6
Botany, other(29)	-	-	-	-	-	-	-	3	2	5	-	3	3	3	4	5
Botany(29)	5	7	5	5	-	3	6	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	3	1	3	5	3	-	4	4	2
Cytology(30)	-	-	2	-	1	-	1	-	-	-	-	-	-	-	-	-
Devel bio/embryology(31)	-	-	-	-	-	1	-	1	2	-	-	1	-	-	1	1
Ecology	4	5	4	-	4	5	5	5	8	7	9	7	9	9	8	11
Endocrinology(6)	-	-	-	-	-	-	-	-	-	1	-	1	-	3	-	1
Entomology	3	11	10	9	7	8	13	8	13	5	7	2	7	9	7	10
Human/animal genetics(32)	-	-	-	-	-	-	-	1	1	4	-	2	3	4	4	9
Plant genetics(32)	-	-	-	-	-	-	-	2	-	2	-	1	5	4	1	3
Genetics(32)	10	2	3	7	9	7	7	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	7	4	6	3	5	2	2	9	10
Plant pathology(33)	-	-	-	-	-	-	-	1	1	2	-	3	2	1	2	5
Pathology(33)	4	2	2	2	6	8	5	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	6	4	2	6	4	3	7	8	5	4	3	5	6	8	8	13
Human/animal physiol(34)	-	-	-	-	-	-	-	6	9	8	7	7	7	7	11	11
Animal physiology(34)	7	15	4	4	6	4	10	-	-	-	-	-	-	-	-	-
Plant physiology(34)	6	4	3	4	1	1	4	3	2	2	-	1	5	3	3	2
Immunology	6	1	4	-	2	-	4	3	5	5	3	2	3	4	8	8
Microbiology(35)	-	-	-	-	-	-	-	2	9	7	9	13	9	12	11	20
Bacteriology(35)	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-
Microbiology/bacteriol(35)	5	11	9	4	3	9	9	-	-	-	-	-	-	-	-	-
Molecular biology	3	6	4	2	9	1	7	8	7	7	7	11	13	13	16	17
Neurosciences	-	-	-	-	-	-	1	2	5	6	4	1	4	5	8	16
Nutritional sciences(36)	7	8	5	3	3	-	4	1	2	5	3	4	5	3	1	5
Parasitology	-	1	1	1	1	-	-	1	2	-	1	-	-	3	2	1
Toxicology(6)	-	-	-	-	-	-	-	1	-	2	2	2	1	2	3	1
Zoology, other(37)	-	-	-	-	-	-	-	2	5	1	8	5	4	9	6	5
Zoology(37)	4	4	3	5	5	4	3	-	-	-	-	-	-	-	-	-
Biological sci, general	7	5	7	4	7	1	7	3	4	5	8	8	10	8	19	16
Biological sci, other	6	5	3	8	7	5	4	1	2	5	-	5	10	3	8	4

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS																
WHITE																
SOCIAL SCIENCES	247	223	240	190	175	233	186	202	206	195	209	186	224	221	219	246
Agricultural economics	20	15	24	20	11	12	17	9	16	14	11	6	15	13	11	17
Anthropology	12	11	17	8	8	11	14	10	11	6	10	6	11	8	9	15
Area studies	2	1	3	1	-	1	-	-	1	-	2	1	-	-	2	-
Criminology(38)	-	-	-	-	2	-	-	2	3	-	-	-	1	-	2	1
Demography(6)	-	-	-	-	-	-	-	2	3	1	-	3	3	1	4	-
Econometrics	1	3	3	2	-	2	3	2	5	6	2	2	10	5	4	1
Economics	95	84	82	76	68	89	68	75	78	77	78	70	95	81	83	109
Geography	12	16	12	6	8	10	8	10	10	11	6	7	13	11	14	9
History of science(39)	3	1	1	2	-	4	3	-	-	2	6	1	-	2	2	3
International relations	5	8	7	5	8	5	6	4	10	3	5	13	5	9	9	7
Linguistics	14	12	20	18	16	19	16	20	19	13	19	18	15	20	13	16
Pol sci/government(40)	-	-	-	-	-	-	-	19	18	19	25	25	23	25	22	21
Political science(40)	35	30	21	15	17	27	13	-	-	-	-	-	-	-	-	-
Pol sci, public admin(40)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	4	3	1	4	4	1	2	2	3
Sociology	28	22	27	25	20	25	17	21	19	16	25	12	20	25	18	26
Statistics	3	4	5	2	1	6	9	12	[illegible]	6	7	4	4	6	6	3
Urban studies(41)	7	9	5	7	10	7	3	5	3	10	3	2	6	6	5	7
Social sciences, general	-	1	4	2	-	3	-	-	1	2	1	6	-	1	5	1
Social sciences, other	9	6	9	1	6	12	9	7	3	8	5	6	2	6	8	7
PSYCHOLOGY	57	53	38	37	50	48	42	43	49	47	42	51	37	56	53	57
Clinical	6	5	8	3	8	9	11	7	5	3	10	16	8	9	16	16
Cognitive(6)	-	-	-	-	-	-	-	4	5	1	3	3	4	4	7	7
Comparative(42)	2	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Counseling(43)	5	5	5	4	-	7	7	6	6	2	3	5	3	3	2	2
Developmental(44)	4	3	3	3	3	1	4	2	6	7	6	4	1	7	3	3
Educational	1	6	1	3	1	1	1	4	5	2	1	3	-	3	1	4
Experimental(42)	9	11	6	5	9	5	5	6	1	7	5	2	5	4	8	7
Indust/organizational(45)	4	2	1	2	-	2	-	-	3	1	2	2	1	4	2	1
Physiological(42)	3	3	3	1	2	1	1	2	2	5	1	3	4	-	-	3
Quantitative(6)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1
Personality	3	1	1	1	1	1	-	-	1	-	-	1	-	3	-	-
Psychometrics	2	1	-	-	-	1	-	-	-	1	-	-	-	-	-	-
School	-	-	-	2	1	1	-	-	2	-	-	2	1	2	-	1
Social	13	6	5	4	5	5	4	5	2	5	4	4	3	7	4	1
Psychology, general	3	5	1	3	5	4	3	5	5	9	2	3	5	6	6	7
Psychology, other	2	5	4	6	15	10	5	2	6	4	5	3	1	4	3	4
TOTAL, ENGINEERING	265	339	319	276	284	304	328	375	347	361	348	375	411	491	549	519
Aerospace,aero/astronaut(46)	15	18	19	10	14	11	13	17	12	18	10	17	14	26	26	17
Agricultural	4	5	6	11	14	10	6	15	5	10	6	7	4	8	8	5
Bioengineering/biomed(47)	3	5	5	2	2	2	3	9	6	6	1	10	9	6	16	11
Ceramic	-	1	1	-	-	1	1	-	1	-	3	1	3	1	-	2
Chemical	26	42	32	37	25	34	25	26	24	34	30	34	29	45	48	42
Civil	50	44	43	37	56	64	64	71	64	56	55	70	82	92	79	105
Communications(6)	-	-	-	-	-	-	-	4	-	4	2	5	4	4	8	2
Computer	11	21	14	6	6	6	12	9	6	5	9	8	13	11	8	17
Electrical/electronics(48)	-	-	-	-	-	-	-	61	80	82	98	77	92	118	138	114
Electrical(48)	33	51	56	39	41	43	59	9	-	1	-	-	-	-	-	-
Electronics(48)	13	9	8	17	10	8	10	2	-	-	-	-	-	-	-	-
Engineering mechanics	10	13	14	12	10	7	14	13	10	10	9	11	13	11	8	9
Engineering physics(49)	-	1	1	1	1	5	-	2	-	3	-	-	1	1	2	2
Engineering science(6)	-	-	-	-	-	-	-	2	8	4	3	3	1	2	4	5
Environmental health eng(50)	8	5	5	2	4	6	5	2	2	2	2	1	6	4	3	6
Fuel tech/petro eng(9)	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	6	10	3	7	13	7	7	12	13	11	14	14	19	12	18	23
Materials science	5	13	9	11	7	6	10	10	6	15	13	13	13	6	24	28
Mechanical	26	36	34	37	30	30	37	41	50	44	53	59	56	77	82	58
Metallurgical(51)	13	9	4	4	5	7	6	6	12	3	4	5	3	5	9	5
Mining/mineral(52)	-	1	1	1	2	1	-	4	2	4	3	3	-	1	4	10
Naval arch/marine engin(2)	-	-	-	-	-	-	-	2	1	1	2	1	2	2	3	-
Nuclear(49)	13	9	10	11	16	18	16	21	15	10	5	8	9	11	13	13
Ocean(6)	-	-	-	-	-	-	-	3	1	2	-	1	1	2	4	3
Operations research	4	14	12	6	5	6	6	7	6	9	4	3	7	12	9	9
Petroleum(53)	6	6	9	4	2	6	-	3	-	4	3	4	5	9	8	6
Polymer(6)	-	-	-	-	-	-	-	4	4	3	1	3	1	3	2	-
Systems(54)	6	10	13	7	8	9	14	11	6	11	1	5	6	4	7	6
Engineering, general	4	5	4	3	1	4	2	3	5	-	9	5	5	7	5	5
Engineering, other	9	11	15	10	12	13	18	6	8	9	8	7	13	11	13	16
TOTAL, NON-S&E(55)	375	383	386	400	413	438	444	411	422	428	367	393	415	374	454	447
TOTAL, ALL FIELDS	1,388	1,448	1,372	1,263	1,331	1,432	1,458	1,539	1,495	1,567	1,506	1,564	1,682	1,754	1,946	2,039

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS UNKNOWN RACE																
TOTAL, S&E	591	314	126	143	130	128	175	178	240	288	325	358	283	272	400	299
TOTAL, SCIENCES	393	221	99	106	99	98	123	120	164	183	224	254	194	180	281	207
PHYSICAL SCIENCES	80	50	17	27	21	23	22	23	26	34	45	51	40	35	67	38
Physics/astronomy	48	34	6	17	15	11	12	11	19	18	21	30	29	20	38	19
Astronomy(1)	1	-	-	-	-	-	-	-	1	-	1	-	2	1	1	1
Astrophysics(1)	1	1	-	1	-	-	-	-	1	1	-	2	1	-	-	1
Atomic/molecular	2	1	1	1	-	-	-	-	2	1	3	2	-	-	1	-
Elementary particle	3	4	1	2	3	-	3	3	3	5	2	1	3	-	1	-
Fluids	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-
Nuclear(5)	4	2	-	2	1	1	-	-	1	-	1	3	-	2	-	1
Optics	-	-	-	-	-	-	-	1	-	-	1	1	-	-	1	3
Plasma	-	2	-	1	-	1	-	1	1	-	1	3	-	-	-	3
Polymer(6)	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
Solid state	16	12	3	3	5	2	4	3	4	4	7	8	7	5	6	4
Thermal(8)	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Physics, general	19	9	1	5	5	6	5	2	3	6	2	9	9	8	18	5
Physics, other	2	2	-	2	1	-	-	1	3	1	3	1	5	3	8	1
Chemistry	32	16	11	10	6	12	10	12	7	16	24	21	11	15	29	19
Analytical	3	-	-	-	1	1	2	3	-	1	2	2	1	1	1	-
Inorganic	2	3	-	-	-	1	2	2	1	2	1	3	3	1	3	5
Nuclear	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-
Organic	10	5	-	1	1	2	2	-	2	3	9	2	3	3	2	1
Pharmaceutical	1	-	1	1	1	-	-	2	-	-	-	2	1	2	-	-
Physical	6	-	3	2	-	3	1	1	-	2	5	2	1	4	5	4
Polymer	1	2	1	1	1	-	-	1	1	2	-	2	-	1	-	1
Theoretical	-	1	3	1	-	-	-	-	-	-	-	-	-	-	-	-
Chemistry, general	9	5	3	2	2	5	2	1	1	4	5	6	1	3	17	8
Chemistry, other	-	-	-	2	-	-	1	1	2	2	2	2	-	-	1	-
EARTH, ATMOS, OCEAN SCI	17	5	2	5	3	7	1	6	5	7	9	10	10	6	9	15
Applied geology(9)	2	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-
Atmos/meteorol sci, gen(6)	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	2
Atmos/meteorol sci, other	2	-	-	1	-	1	-	1	-	-	-	-	-	-	-	-
Atmospheric dynamics	1	-	-	-	-	1	-	1	1	1	-	-	-	-	-	-
Atmospheric phys/chem	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-
Environmental sciences(10)	1	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-
Geochemistry(11)	1	-	-	1	-	-	-	-	-	-	-	2	1	-	1	-
Geology(12)	-	-	-	-	-	-	-	-	1	1	3	1	2	1	1	5
Geomorph/glacial geology	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-
Geophysics/seismology(13)	1	2	1	1	-	-	-	2	-	1	1	3	4	1	2	1
Geophysics(13)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrology/water res(14)	-	-	-	1	-	-	-	-	1	-	-	1	1	1	-	-
Marine sciences(6)	-	-	-	-	-	-	-	1	-	1	-	1	-	-	-	2
Meteorology(16)	-	-	-	-	-	-	-	1	-	1	1	-	-	1	1	1
Minerology, petrology(11)	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	1
Oceanography	2	-	-	-	-	-	-	-	1	1	2	-	-	-	1	-
Paleontology	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Stratigraphy, sediment	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geological sciences, gen(17)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Geological sciences, oth(17)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	2
Earth sciences, general(17)	2	2	-	-	3	3	-	-	-	-	-	-	-	-	-	-
Earth sciences, other(17)	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Physical sciences, other(6)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
MATHEMATICS	33	18	6	5	3	6	9	10	6	11	14	39	20	14	22	22
Algebra	4	2	-	-	-	-	-	1	1	-	3	3	1	-	1	1
Analysis/funct analysis(18)	5	2	2	1	1	1	2	-	2	1	2	8	2	4	2	1
Applied mathematics	6	-	1	1	-	1	-	4	1	1	2	1	2	4	4	2
Computing theory	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Geometry	-	-	-	-	-	-	-	1	-	2	-	5	-	-	1	1
Logic	4	-	1	-	-	-	-	-	-	-	-	1	-	-	-	1
Math probability/stat(19)	7	4	1	1	1	-	2	-	-	-	1	7	6	1	3	7
Number theory	1	-	-	-	-	-	-	1	-	-	2	-	-	1	-	-
Operations research	-	2	-	-	1	1	1	-	1	-	-	2	-	1	1	-
Topology	1	2	-	2	-	-	-	1	-	1	-	1	2	-	-	-
Mathematics, general	4	3	1	-	-	3	3	2	1	5	2	7	6	2	10	8
Mathematics, other	-	2	-	-	-	-	-	-	-	1	2	4	1	1	-	1
COMPUTER & INFO SCI	-	1	3	1	3	2	-	1	3	7	8	10	11	7	10	5
Computer sciences	-	1	3	1	3	2	-	-	2	5	8	9	9	6	8	5
Information sci/systems(6)	-	-	-	-	-	-	-	1	1	2	-	1	2	1	2	-

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS UNKNOWN RACE																
AGRIC & BIOL SCI	114	72	32	28	29	25	33	41	60	52	61	70	56	61	88	75
Agricultural sciences	60	38	17	12	18	10	16	17	32	27	33	32	28	35	43	34
Agronomy	17	7	4	1	3	1	4	2	6	4	5	6	6	5	7	8
Animal breeding/genetics(21)	-	-	-	-	-	-	-	2	2	-	2	-	-	2	-	-
Animal nutrition(22)	-	-	-	-	-	-	-	-	-	-	2	2	2	1	-	3
Animal sci/nutrition(22)	3	4	1	3	1	1	1	-	-	-	-	-	-	-	-	-
Dairy science(22)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	3	-
Poultry science(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Animal sciences, other(22)	-	-	-	-	-	-	-	1	4	2	4	1	1	3	5	-
Fish/wildlife(23)	1	-	-	-	2	-	2	-	-	-	-	-	-	-	-	-
Fisheries science(23)	-	-	-	-	-	-	-	-	-	-	2	1	-	-	1	2
Wildlife/range mgmt(23)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
Food sciences(24)	5	7	2	-	1	-	4	2	5	5	4	6	-	-	-	-
Food engineering(24)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Food sciences, other(24)	-	-	-	-	-	-	-	-	-	-	-	-	3	7	8	5
Forestry science(25)	2	1	3	1	-	1	-	-	1	-	4	1	-	-	-	-
Forest biology(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Wood science(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2
Renewable natrl rsrces(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Forestry&relatd sci, oth(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2
Horticulture science	3	5	2	-	-	2	1	2	1	3	2	4	4	2	1	1
Plant breeding/genetics(26)	-	-	-	-	-	-	-	2	3	-	2	1	1	1	7	2
Plant pathology(26)	-	-	-	-	-	-	-	3	2	3	3	1	3	1	2	2
Phytopathology(26)	8	3	2	3	2	-	-	-	-	-	-	-	-	-	-	-
Plant sciences, other(26)	-	-	-	-	-	-	-	-	-	1	-	2	1	2	-	1
Soil sciences(28)	12	7	2	1	5	1	1	2	7	5	3	3	-	-	-	-
Soil chem/microbio(28)	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	-
Soil sciences, other(28)	-	-	-	-	-	-	-	-	-	-	-	-	2	5	4	3
Agriculture, general	-	-	-	-	1	1	-	-	-	-	-	1	1	-	-	-
Agriculture, other	9	4	1	3	3	3	3	1	1	4	-	3	1	1	-	-
Biological sciences	54	34	15	16	11	15	17	24	28	25	28	38	28	26	45	41
Anatomy	-	1	1	-	-	1	1	-	1	-	2	1	-	1	2	-
Biochemistry	13	3	2	-	1	2	2	5	1	4	3	9	3	5	9	11
Biometrics/biostat	1	1	1	-	-	1	-	-	1	-	-	1	-	-	-	1
Biophysics	3	2	-	-	-	1	-	-	-	2	1	-	-	-	2	-
Botany, other(29)	-	-	-	-	-	-	-	2	1	1	2	1	1	3	2	-
Botany(29)	2	-	-	1	-	2	1	-	-	-	-	-	-	-	-	-
Cell biology(30)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Devel bio/embryology(31)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Ecology	-	3	-	1	1	1	-	2	-	2	-	2	1	-	1	-
Endocrinology(6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Entomology	3	4	1	2	4	1	4	4	3	4	2	3	1	-	3	3
Human/animal genetics(32)	-	-	-	-	-	-	-	-	-	-	-	2	-	-	1	1
Plant genetics(32)	-	-	-	-	-	-	-	1	-	-	-	-	2	-	1	-
Genetics(32)	5	3	1	2	1	1	-	-	-	-	-	-	-	-	-	-
Human/animal pathology(33)	-	-	-	-	-	-	-	-	1	2	1	1	2	-	1	1
Plant pathology(33)	-	-	-	-	-	-	-	-	2	-	2	-	1	-	1	2
Pathology(33)	3	1	-	-	1	1	-	-	-	-	-	-	-	-	-	-
Human/animal pharmacol	-	-	-	1	-	-	-	2	2	1	1	2	1	1	1	2
Human/animal physiol(34)	-	-	-	-	-	-	-	2	2	1	1	2	-	3	2	-
Animal physiology(34)	2	1	4	1	1	-	2	-	-	-	-	-	-	-	-	-
Plant physiology(34)	2	2	-	-	-	-	1	1	1	-	3	1	-	-	1	2
Immunology	-	-	-	-	1	-	-	1	-	1	-	-	-	1	-	3
Microbiology(35)	-	-	-	-	-	-	-	2	1	3	4	5	2	2	3	2
Microbiology/bacteriol(35)	7	2	2	2	1	-	1	-	-	-	-	-	-	-	-	-
Molecular biology	1	-	-	-	-	-	-	-	1	1	2	3	3	5	5	4
Neurosciences	-	-	-	-	-	-	-	-	-	1	-	-	2	2	1	1
Nutritional sciences(36)	3	3	2	1	-	2	3	1	4	-	2	-	4	-	1	2
Parasitology	-	-	-	2	-	-	-	-	-	-	1	-	-	2	-	-
Toxicology(6)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
Zoology, other(37)	-	-	-	-	-	-	-	-	1	-	-	-	1	1	-	-
Zoology(37)	4	4	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Biological sci, general	4	2	-	3	-	1	-	1	4	2	1	4	4	-	7	3
Biological sci, other	1	2	1	-	-	-	1	-	1	-	-	1	-	-	1	-

See footnotes at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, racial/ethnic group, and subfield of recipients: 1976-91--continued

Citizenship status, race/ethnicity, subfield	Year of doctorate															
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NON-U.S. CITIZENS, TEMPORARY VISAS UNKNOWN RACE																
SOCIAL SCIENCES	137	71	34	32	36	28	52	39	62	64	82	68	48	55	83	50
Agricultural economics	8	5	3	3	4	3	3	3	8	-	9	6	4	4	8	5
Anthropology	9	6	3	-	1	3	1	1	3	3	-	5	4	2	6	1
Area studies	-	-	1	-	-	1	-	1	1	-	2	-	-	-	-	3
Criminology(38)	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Demography(6)	-	-	-	-	-	-	-	1	1	2	1	2	1	3	1	-
Econometrics	2	-	-	-	1	-	-	-	1	1	-	2	2	-	1	1
Economics	46	24	10	15	10	5	17	12	16	20	25	15	18	15	27	20
Geography	2	3	2	1	2	-	3	2	2	4	6	1	4	2	5	1
History of science(39)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
International relations	7	4	1	4	1	1	4	3	2	2	3	2	3	7	3	-
Linguistics	9	4	1	-	2	3	7	3	7	4	10	8	6	1	3	2
Pol sci/government(40)	-	-	-	-	-	-	-	7	4	9	9	9	4	2	15	7
Political science(40)	21	5	4	5	8	4	4	-	-	-	-	-	-	-	-	-
Pol sci, public admin(40)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public policy studies(6)	-	-	-	-	-	-	-	2	-	1	1	2	-	2	-	-
Sociology	22	13	7	4	3	4	6	4	10	7	7	9	-	9	9	6
Statistics	3	2	-	-	-	1	2	-	2	3	2	5	1	3	1	-
Urban studies(41)	-	2	1	-	1	2	1	-	2	4	2	2	1	3	1	2
Social sciences, general	1	-	-	-	-	-	-	-	2	1	-	-	-	-	1	-
Social sciences, other	4	3	1	-	3	1	4	-	1	1	5	-	-	2	2	2
PSYCHOLOGY	12	4	5	8	4	7	6	-	2	8	5	6	9	2	2	2
Clinical	1	-	-	-	-	1	-	-	-	1	-	-	1	-	-	-
Cognitive(6)	-	-	-	-	-	-	-	-	-	-	1	-	1	-	1	-
Counseling(43)	1	-	-	-	-	1	-	-	-	1	1	-	-	-	-	-
Developmental(44)	2	1	-	-	2	-	-	-	-	1	-	1	2	-	-	-
Educational	-	1	1	2	-	1	-	-	1	-	-	-	-	-	-	-
Experimental(42)	3	-	-	1	-	-	2	-	1	2	1	1	-	1	-	-
Indust/organizational(45)	3	-	-	-	-	-	1	-	-	-	-	-	2	-	-	1
Physiological(42)	-	-	1	1	-	1	1	-	-	-	-	1	-	-	-	-
Psychometrics	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
School	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
Social	1	-	-	-	-	-	1	-	-	-	-	-	-	1	1	-
Psychology, general	1	1	2	1	-	1	-	-	-	-	1	1	1	-	-	-
Psychology, other	-	-	1	3	2	2	1	-	-	3	1	1	1	-	-	1
TOTAL, ENGINEERING	198	93	27	37	31	30	52	58	76	105	101	104	89	92	119	92
Aerospace,aero/astronaut(46)	6	9	1	3	-	-	2	5	2	3	6	3	-	3	3	2
Agricultural	3	4	2	1	2	1	2	3	6	2	1	2	3	4	-	3
Bioengineering/biomed(47)	1	2	-	1	-	-	-	1	2	-	1	1	1	2	3	-
Ceramic	1	2	-	-	-	-	-	-	-	-	-	1	-	-	1	3
Chemical	24	8	1	3	2	3	4	7	9	12	19	7	14	14	10	7
Civil	29	17	4	4	8	4	13	14	10	23	14	14	8	13	14	14
Communications(6)	-	-	-	-	-	-	-	1	-	-	1	-	1	-	1	-
Computer	11	1	1	1	-	2	-	2	1	1	4	2	1	2	2	-
Electrical/electronics(48)	-	-	-	-	-	-	-	4	15	17	16	20	19	20	30	23
Electrical(48)	31	14	3	5	4	6	5	2	-	-	-	-	-	-	-	-
Electronics(48)	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-
Engineering mechanics	9	2	-	-	1	1	1	-	1	-	3	4	1	2	1	2
Engineering physics(49)	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2	-
Engineering science(6)	-	-	-	-	-	-	-	2	1	1	1	-	-	-	1	-
Environmental health eng(50)	4	1	1	-	1	-	1	-	1	-	-	-	-	-	-	1
Fuel tech/petro eng(9)	2	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	8	4	-	2	2	1	1	2	1	1	4	2	3	4	4	3
Materials science	11	5	1	2	-	-	3	1	5	2	4	4	8	4	12	6
Mechanical	28	9	2	1	4	3	11	4	6	15	12	17	9	13	15	18
Metallurgical(51)	9	1	3	4	-	2	2	2	1	2	3	5	2	2	2	1
Mining/mineral(52)	3	-	-	-	-	-	-	1	-	-	1	-	3	1	3	2
Naval arch/marine engin(2)	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-
Nuclear(49)	8	3	2	-	1	4	2	3	4	8	2	4	2	3	2	3
Ocean(6)	-	-	-	-	-	-	-	-	-	5	1	1	2	-	-	-
Operations research	2	1	2	2	-	2	1	1	-	3	-	-	4	1	1	-
Petroleum(53)	1	1	1	3	3	-	1	1	3	2	1	1	-	1	3	1
Polymer(6)	-	-	-	-	-	-	-	2	-	-	1	1	1	1	1	-
Systems(54)	1	2	-	2	-	1	2	-	-	1	2	4	1	-	1	2
Engineering, general	2	3	1	-	2	-	-	-	2	3	2	4	1	1	3	-
Engineering, other	4	3	2	1	1	-	-	-	5	3	2	6	5	1	4	1
TOTAL, NON-S&E(55)	171	83	52	47	52	55	75	71	83	92	114	111	73	80	124	75
TOTAL, ALL FIELDS	762	397	178	190	182	183	250	249	323	380	439	469	356	352	524	374

See footnotes at end of table.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

FOOTNOTES

[A hyphen (-) in a data column signifies that the subfield was not identified separately in the questionnaire for that year (e.g., the subfield "polymer chemistry" was introduced in 1973), or that this subfield was included in the questionnaire for that year but no doctorates were reported.]

(1) "Astronomy" and "astrophysics" were combined until 1969 when separate subfields were introduced.

(2) This subfield was introduced in 1983 and deleted in 1991.

(3) This subfield was originally called "electricity and magnetism." In 1966 the name was changed to "electromagnetism." In 1980 this subfield was deleted from the taxonomy.

(4) "Thermal physics" was originally shown as one subfield, "mechanics and heat." In 1960 this subfield was separated into "mechanics" and "heat (thermal)." The latter was subsequently changed to "thermal phenomena" in 1963 and then to "thermal physics" in 1967. "Mechanics" was deleted from the taxonomy in 1977. Also see footnote 8.

(5) This subfield was originally named "nuclear structure." It was changed to "nuclear" in 1983.

(6) This subfield was introduced in 1983.

(7) "Theoretical physics" was deleted in 1962, but a few degrees were reported for 1962 and 1963 because outdated forms were used by some institutions.

(8) "Thermal physics" was added in 1960 under the original name of "heat (thermal)." It was deleted in 1982. See footnote 4 for more information.

(9) In 1960 "geophysical engineering" and "geological engineering" were merged into "geo-engineering." "Geo-engineering" became "applied geology, geological engineering, economic geology, and petroleum engineering" in 1962, and was split into "applied geology, geological engineering, and economic geology" and "fuel technology and petroleum engineering" in 1969. "Fuel technology and petroleum engineering" was discontinued in this major group, and in 1983 "applied geology, geological engineering, and economic geology" was replaced by "applied geology." "Applied geology" was deleted in 1991. Also see footnote 53.

(10) "Environmental sciences, general" and "environmental sciences, other" were deleted in 1983, and "environmental sciences" was introduced.

(11) "Mineralogy, petrology, and geochemistry" was split into "geochemistry" and "mineralogy, petrology" in 1969.

(12) "Structural geology" was deleted in 1983, and "geology" was introduced.

(13) "Geophysics" was replaced by "geophysics, solid earth" in 1976. It was changed to "geophysics and seismology" in 1983.

(14) This subfield was originally listed as "hydrology." "Water resources" was added to the title in 1977.

(15) "Marine sciences, other" was introduced in 1977 and deleted in 1983.

(16) "Meteorology" was deleted in 1976 and restored in 1983.

FOOTNOTES (continued)

(17) "Earth sciences, general" and "earth sciences, other" were deleted in 1983, and "geological sciences, general" and "geological sciences, other" were introduced.

(18) This subfield was specified as "analysis" through 1967. "Functional analysis" was added in 1968.

(19) "Math statistics" was removed from the name of this subfield in 1969 but was restored in 1972.

(20) "Agricultural business and management" was introduced in 1988.

(21) This subfield was previously called "animal husbandry." It was changed to "animal breeding and genetics" in 1983.

(22) The "animal sciences" subfield was introduced in 1972. The name was changed to "animal science and animal nutrition" in 1977. The field was separated into "animal nutrition" and "animal sciences, other" in 1983. In 1988 "dairy science" and "poultry science" were introduced.

(23) "Fish and wildlife" was split into two separate subfields in 1983. In 1988 "wildlife management" was discontinued, and "wildlife/range management" was introduced.

(24) This subfield was introduced as "food science and technology" in 1969. The name was changed to "food sciences" in 1983. In 1988 the field was separated into "food distribution," "food engineering," and "food sciences, other."

(25) In 1988 "forestry science" was separated into "forestry biology," "forest engineering," "forest management," "wood science," "renewable natural resources," and "forestry and related sciences, other."

(26) "Phytopathology" was discontinued in 1983 and the subfields "plant breeding and genetics," "plant pathology," and "plant sciences, other" were introduced.

(27) "Plant protection-pest management" was introduced in 1988 and deleted in 1991.

(28) This subfield was changed from "soils and soil science" to "soil sciences" in 1983. In 1988 "soil sciences" was separated into "soil chemistry/microbiology" and "soil sciences, other."

(29) The subfield "botany" was discontinued in 1983, and "botany, other" was introduced.

(30) "Cytology" was introduced in 1962 and discontinued in 1983. "Cell biology" was introduced in 1983.

(31) "Embryology" was changed to "developmental biology/embryology" in 1990.

(32) "Genetics" was split into "plant genetics" and "human and animal genetics" in 1983.

(33) "Pathology" was split into "plant pathology" and "human and animal pathology" in 1983.

(34) In 1962 "animal and plant physiology" was separated into "animal physiology" and "plant physiology." In 1983 "animal physiology" was replaced by "human and animal physiology."

(35) This subfield was originally called "microbiology." "Bacteriology" was added in 1970. In 1983 they were split into two separate subfields.

FOOTNOTES (continued)

(36) The subfield "nutrition" was discontinued in 1963. "Nutrition and dietetics" was introduced in 1976 and was replaced by "nutritional sciences" in 1983.

(37) The subfield "zoology" was discontinued in 1983, and "zoology, other" was introduced.

(38) This subfield was introduced in 1980 as "criminology and criminal justice." The name was changed to "criminology" in 1983.

(39) The subfield "history and philosophy of science" was introduced in 1971. The name was changed to "history of science" in 1983.

(40) "Political science, public administration" was split into two separate subfields in 1976. "Public administration" was not included in science and engineering fields after 1976. In 1983 "political science and government" replaced "political science."

(41) This subfield was changed from "urban and regional planning" to "urban studies" in 1983.

(42) "Experimental, comparative, and physiological psychology" was split into three separate subfields in 1962.

(43) This subfield was changed from "counseling and guidance" to "counseling" in 1983.

(44) This subfield was changed from "developmental and gerontological" to "developmental" in 1983.

(45) This subfield was changed from "industrial and personnel" to "industrial and organizational" in 1983.

(46) This subfield was originally named "aeronautical engineering." In 1966 the term "astronautical" was added, and in 1983 the term "aerospace" was added.

(47) "Biomedical" was introduced in 1969, and "bioengineering" was added in 1983.

(48) "Electrical engineering" and "electronics engineering" were merged in 1983.

(49) In 1961 "nuclear engineering" was deleted from the taxonomy, and previous cases were added to "engineering physics." In 1969 "nuclear engineering" was reinstated in the taxonomy.

(50) "Environmental health engineering" was called "sanitary and environmental engineering" prior to 1983.

(51) This subfield was originally specified as "metallurgy and metallurgical engineering." The term "physical" was introduced in 1967. It was changed to "metallurgical" in 1983.

(52) "Mining engineering" was deleted in 1961 but was restored to the taxonomy in 1969. The name was changed to "mining and mineral" in 1983.

(53) The subfield "fuel technology and petroleum engineering" was added to the engineering section of the taxonomy in 1973. The name was changed to "petroleum" in 1983. Also see footnote 9.

(54) This subfield was introduced as "systems design and systems science" in 1975. It was changed to "systems" in 1983.

(55) Non-S&E doctorates awarded include those whose field of specialization is unknown.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

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Table 4. Science and engineering (S&E) doctorates awarded, by sex, major field, and median age of recipients: 1970-91, and totals for 1960-64 and 1965-69

Sex and major field	Median age in year of doctorate													
	1960-1964	1965-1969	1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1970-1979
TOTAL, MALE AND FEMALE														
Total, S&E	30.2	29.5	29.8	29.2	29.3	29.6	29.9	30.0	29.9	29.9	30.0	30.1	30.2	29.8
Total, sciences	30.3	29.4	29.8	29.1	29.2	29.5	29.9	29.9	29.8	29.9	30.0	30.1	30.2	29.8
Physical sciences	28.5	28.1	28.3	28.2	28.3	28.6	28.9	28.8	28.7	28.8	29.0	29.0	28.6	28.6
Physics/astronomy	29.0	28.5	28.7	28.6	28.8	29.0	29.2	29.3	29.3	29.1	29.5	29.5	29.2	29.1
Chemistry	28.2	27.7	27.9	27.9	27.9	28.3	28.5	28.5	28.3	28.5	28.6	28.7	28.2	28.3
Earth/atmos/ocean	30.6	30.4	30.5	30.5	30.5	30.5	30.5	31.0	30.7	30.2	30.5	30.5	30.2	30.5
Mathematics	29.3	28.1	28.4	28.1	28.4	28.9	29.1	29.2	29.1	29.1	29.0	29.3	29.3	28.9
Computer/info sci	*	*	*	*	*	*	*	*	*	*	29.5	30.1	30.1	30.1
Agric & biol sci	30.8	30.1	30.4	29.2	29.4	29.7	30.0	29.9	29.7	29.7	29.7	29.8	29.8	29.7
Agricultural sci	31.2	31.4	31.3	30.2	30.8	31.1	31.2	31.2	31.0	31.4	31.2	31.2	31.2	31.1
Biological sci	30.7	29.7	30.1	29.0	29.1	29.4	29.7	29.6	29.4	29.4	29.4	29.5	29.5	29.4
Social sciences	32.9	31.9	32.3	31.2	31.0	30.9	31.2	31.5	31.6	31.6	31.9	31.7	32.3	31.5
Psychology	31.1	29.8	30.4	29.0	28.9	29.3	29.5	29.4	29.5	29.6	29.9	30.1	30.6	29.6
Total, engineering(1)	29.8	29.7	29.8	29.6	29.9	30.1	30.4	30.3	30.2	30.2	30.0	30.2	30.3	30.1
Chemical	28.5	28.3	28.4	28.6	28.5	28.6	29.1	29.0	29.2	29.1	29.1	29.2	28.4	28.9
Civil	30.8	31.0	30.9	30.3	31.0	30.7	31.5	31.3	31.5	31.9	31.3	30.9	31.4	31.2
Electrical	29.9	29.7	29.8	29.2	29.5	29.9	30.2	30.1	29.8	30.0	29.9	29.7	30.3	29.8
Materials sci	*	29.8	29.8	29.3	30.5	30.2	29.5	30.5	30.1	29.7	29.4	29.5	30.7	29.9
Mechanical	30.2	30.1	30.1	30.3	30.3	30.6	30.7	30.8	30.4	30.6	30.7	30.8	30.4	30.6
Total, non-S&E(2)	35.5	35.4	35.4	34.7	34.6	34.4	34.2	34.1	34.3	34.4	34.6	34.8	35.0	34.5
Total, all fields	31.7	31.2	31.4	30.7	30.8	31.1	31.3	31.4	31.5	31.6	31.6	31.7	31.9	31.4
MALE														
Total, S&E	30.1	29.5	29.7	29.1	29.3	29.7	30.0	30.1	29.9	29.9	30.0	30.1	30.2	29.8
Total, sciences	30.2	29.4	29.7	29.0	29.2	29.6	29.9	30.0	29.9	29.8	30.0	30.1	30.1	29.7
Physical sciences	28.5	28.1	28.3	28.2	28.3	28.6	28.9	28.9	28.7	28.8	29.0	29.1	28.6	28.7
Physics/astronomy	29.0	28.5	28.7	28.6	28.8	29.0	29.2	29.3	29.4	29.2	29.5	29.6	29.2	29.1
Chemistry	28.2	27.7	27.9	27.8	27.9	28.3	28.5	28.5	28.3	28.6	28.6	28.8	28.2	28.3
Earth/atmos/ocean	30.6	30.5	30.5	30.5	30.5	30.6	30.6	30.9	30.7	30.2	30.6	30.5	30.3	30.5
Mathematics	29.2	28.0	28.4	28.1	28.4	28.9	29.1	29.2	29.1	29.1	29.0	29.3	29.4	28.9
Computer/info sci	*	*	*	*	*	*	*	*	*	*	29.7	30.1	30.0	30.0
Agric & biol sci	30.8	30.2	30.4	29.3	29.4	29.8	30.1	30.1	29.9	29.9	29.9	29.8	29.9	29.8
Agricultural sci	31.2	31.5	31.4	30.2	30.8	31.1	31.3	31.2	31.0	31.5	31.2	31.2	31.4	31.1
Biological sci	30.6	29.8	30.1	29.1	29.1	29.5	29.8	29.7	29.6	29.5	29.5	29.4	29.5	29.5
Social sciences	32.7	31.8	32.1	31.1	30.9	30.8	31.2	31.5	31.6	31.6	31.9	31.6	32.1	31.4
Psychology	30.8	29.5	30.1	28.8	28.7	29.1	29.3	29.4	29.5	29.5	29.9	30.1	30.5	29.5
Total, engineering(1)	29.8	29.7	29.8	29.6	29.9	30.1	30.4	30.3	30.2	30.2	30.0	30.2	30.4	30.1
Chemical	28.5	28.3	28.4	28.6	28.5	28.6	29.1	29.0	29.2	29.1	29.1	29.2	28.4	28.9
Civil	30.8	31.0	30.9	30.3	31.0	30.7	31.6	31.3	31.6	31.9	31.4	30.9	31.4	31.2
Electrical	29.9	29.7	29.8	29.2	29.5	29.9	30.2	30.1	29.8	30.1	29.9	29.8	30.4	29.9
Materials sci	*	29.8	29.8	29.3	30.5	30.2	29.5	30.5	30.1	29.7	29.4	29.6	30.7	29.9
Mechanical	30.2	30.1	30.1	30.3	30.3	30.6	30.8	30.8	30.5	30.5	30.7	30.8	30.4	30.6
Total, non-S&E(2)	34.9	34.9	34.9	34.3	34.1	33.9	33.9	33.8	34.0	34.2	34.3	34.5	34.7	34.2
Total, all fields	31.5	30.9	31.1	30.5	30.5	30.9	31.1	31.3	31.3	31.3	31.3	31.3	31.6	31.1
FEMALE														
Total, S&E	31.8	30.1	30.6	29.3	29.7	29.5	29.8	29.7	29.6	29.9	29.9	30.2	30.4	29.9
Total, sciences	31.9	30.1	30.6	29.3	29.7	29.5	29.8	29.7	29.6	29.9	29.9	30.2	30.5	29.9
Physical sciences	28.5	28.1	28.2	28.6	28.1	28.4	28.6	28.5	28.3	28.2	28.4	28.3	28.5	28.4
Physics/astronomy	30.5	28.3	28.6	28.9	28.9	28.4	29.1	29.8	28.6	28.0	29.1	29.2	29.2	28.9
Chemistry	28.3	28.0	28.1	28.5	28.0	28.4	28.4	28.2	28.1	28.3	28.2	28.2	28.2	28.2
Earth/atmos/ocean	*	30.1	31.0	*	*	29.8	28.8	31.3	29.8	30.5	29.2	30.3	29.1	29.8
Mathematics	29.8	28.7	28.9	27.9	28.2	28.6	28.7	28.8	29.2	29.1	29.0	29.3	29.1	28.9
Computer/info sci	*	*	*	*	*	*	*	*	*	*	*	*	30.7	30.7
Agric & biol sci	31.2	29.3	29.8	28.5	29.2	29.0	29.3	29.1	29.0	29.2	29.3	29.7	29.4	29.2
Agricultural sci	32.8	30.0	30.5	30.3	30.8	30.8	29.7	31.0	30.4	30.5	30.0	31.4	28.6	30.2
Biological sci	31.1	29.3	29.8	28.5	29.2	28.9	29.3	29.0	28.9	29.1	29.2	29.6	29.5	29.2
Social sciences	35.5	34.0	34.4	31.7	32.2	31.3	31.4	31.1	31.4	31.6	32.1	32.1	32.9	31.8
Psychology	33.1	31.3	32.0	29.6	29.9	29.9	30.0	29.6	29.6	29.9	30.0	29.9	30.8	30.0
Total, engineering(1)	30.8	30.2	30.4	*	*	29.3	29.0	29.0	29.2	29.7	28.2	29.7	29.3	29.2
Chemical	*	*	*	*	*	*	*	*	*	*	*	*	*	28.7
Civil	*	*	*	*	*	*	*	*	*	*	*	*	*	29.7
Electrical	*	*	*	*	*	*	*	*	*	*	*	*	*	28.2
Materials sci	*	*	*	*	*	*	*	*	*	*	*	*	*	30.0
Mechanical	*	*	*	*	*	*	*	*	*	*	*	*	*	29.4
Total, non-S&E(2)	39.6	38.1	38.6	37.2	37.0	36.4	35.3	35.0	35.3	35.0	35.3	35.4	35.5	35.6
Total, all fields	36.1	34.3	35.0	33.1	33.0	32.9	32.6	32.3	32.5	32.6	32.8	32.9	33.1	32.8

See footnotes at end of table.

Table 4. Science and engineering (S&E) doctorates awarded, by sex, major field, and median age of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Sex and major field	Median age in year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-1989	1990	1991
TOTAL, MALE AND FEMALE													
Total, S&E	30.2	30.4	30.5	30.8	31.0	31.2	31.4	31.5	31.7	31.7	31.1	31.8	31.9
Total, sciences	30.2	30.3	30.5	30.8	31.1	31.3	31.5	31.6	31.8	31.9	31.1	32.0	32.0
Physical sciences	28.7	28.6	28.8	29.0	29.1	29.2	29.5	29.4	29.6	29.5	29.2	29.8	29.7
Physics/astronomy	29.4	29.1	29.6	29.5	29.5	29.8	30.0	30.0	30.0	30.0	29.7	30.2	30.0
Chemistry	28.3	28.3	28.3	28.6	28.7	28.9	29.2	29.1	29.4	29.1	28.8	29.5	29.4
Earth/atmos/ocean	30.8	30.9	30.7	31.0	31.6	31.3	31.8	31.9	32.4	32.2	31.5	32.4	32.6
Mathematics	29.3	29.2	29.4	29.6	30.2	30.4	30.0	30.7	30.9	30.7	30.0	31.0	30.9
Computer/info sci	29.5	30.1	29.9	30.9	31.2	31.1	32.0	31.8	32.3	32.0	31.2	32.0	31.7
Agric & biol sci	29.7	29.8	29.9	30.2	30.6	30.9	31.1	31.2	31.4	31.6	30.6	31.8	31.8
Agricultural sci	31.3	31.5	31.2	31.6	31.7	32.1	32.4	32.8	33.2	33.3	32.1	33.6	33.8
Biological sci	29.4	29.4	29.7	29.9	30.4	30.5	30.8	30.8	31.0	31.2	30.3	31.3	31.3
Social sciences	32.3	32.5	32.9	33.1	33.3	33.8	33.7	34.0	34.5	34.1	33.4	34.4	34.3
Psychology	30.6	31.4	31.5	32.0	32.3	32.5	33.0	33.2	33.7	33.7	32.3	33.9	33.9
Total, engineering(1)	30.3	30.5	30.7	30.8	30.7	30.9	31.0	31.0	31.1	31.2	30.8	31.3	31.4
Chemical	29.0	29.2	29.3	29.3	29.2	29.3	29.3	29.2	29.3	29.4	29.2	29.2	29.7
Civil	31.9	31.4	31.4	31.4	31.4	31.6	32.0	32.2	32.1	32.3	31.8	32.6	32.6
Electrical	29.8	30.1	30.3	30.3	30.5	30.6	30.6	30.4	30.7	30.7	30.4	30.7	31.2
Materials sci	29.2	29.9	30.2	30.8	30.4	30.0	31.1	31.0	30.8	31.1	30.5	30.7	31.6
Mechanical	30.8	30.6	30.9	31.2	30.8	30.9	31.1	31.1	31.5	31.6	31.1	31.5	31.7
Total, non-S&E(2)	35.4	35.6	35.8	36.2	36.7	37.1	37.5	37.7	38.2	38.6	36.9	38.8	39.1
Total, all fields	32.2	32.4	32.5	32.8	33.0	33.3	33.5	33.6	33.8	33.9	33.1	33.9	33.9
MALE													
Total, S&E	30.2	30.3	30.5	30.7	30.9	31.1	31.3	31.4	31.5	31.6	30.9	31.7	31.7
Total, sciences	30.2	30.2	30.4	30.6	30.9	31.1	31.4	31.5	31.7	31.7	30.9	31.9	31.8
Physical sciences	28.8	28.6	28.8	29.0	29.1	29.3	29.5	29.5	29.7	29.6	29.2	29.9	29.8
Physics/astronomy	29.5	29.1	29.6	29.5	29.5	29.8	30.0	30.0	30.0	30.0	29.7	30.1	30.0
Chemistry	28.4	28.3	28.3	28.6	28.8	28.9	29.2	29.2	29.5	29.3	28.8	29.6	29.6
Earth/atmos/ocean	30.9	31.1	30.9	31.2	31.8	31.5	31.8	32.1	32.5	32.3	31.6	32.3	32.9
Mathematics	29.2	29.1	29.4	29.6	30.3	30.5	29.9	30.6	30.9	30.7	30.0	30.9	30.9
Computer/info sci	29.5	30.1	29.8	30.8	31.0	30.9	31.9	31.7	32.0	31.5	31.1	31.8	31.6
Agric & biol sci	29.8	29.8	30.1	30.3	30.7	30.9	31.2	31.4	31.7	31.8	30.7	32.0	32.0
Agricultural sci	31.5	31.7	31.4	31.7	32.0	32.2	32.8	33.0	33.5	33.6	32.3	33.9	34.0
Biological sci	29.4	29.4	29.8	29.9	30.4	30.5	30.8	30.9	31.2	31.3	30.3	31.4	31.4
Social sciences	32.2	32.4	32.8	32.9	33.1	33.4	33.5	33.8	34.1	33.8	33.2	34.2	34.0
Psychology	30.4	31.2	31.2	31.8	32.1	32.4	32.7	33.1	33.4	33.5	32.0	33.8	33.8
Total, engineering(1)	30.3	30.6	30.8	30.8	30.8	31.0	31.0	31.1	31.2	31.3	30.9	31.3	31.5
Chemical	29.0	29.3	29.4	29.3	29.2	29.4	29.3	29.2	29.4	29.5	29.3	29.3	29.7
Civil	31.9	31.4	31.4	31.5	31.5	31.7	32.1	32.2	32.1	32.2	31.9	32.5	32.6
Electrical	29.8	30.1	30.4	30.3	30.5	30.7	30.6	30.4	30.9	30.8	30.5	30.8	31.2
Materials sci	29.2	30.1	30.5	30.8	30.7	30.0	31.1	31.3	31.0	31.2	30.6	31.1	31.8
Mechanical	30.8	30.6	30.9	31.2	30.8	30.9	31.2	31.1	31.6	31.7	31.1	31.5	31.8
Total, non-S&E(2)	35.0	35.1	35.4	35.8	36.2	36.6	36.8	36.9	37.3	37.5	36.2	37.6	37.9
Total, all fields	31.7	31.8	32.0	32.1	32.3	32.6	32.7	32.8	33.0	33.0	32.4	33.0	33.1
FEMALE													
Total, S&E	30.4	30.7	30.8	31.3	31.5	31.6	31.9	31.8	32.1	32.1	31.5	32.2	32.2
Total, sciences	30.5	30.8	30.9	31.3	31.5	31.7	32.0	31.9	32.2	32.3	31.6	32.4	32.4
Physical sciences	28.2	28.6	28.5	28.8	28.5	28.9	29.2	29.0	29.2	29.0	28.8	29.4	29.2
Physics/astronomy	29.1	29.6	29.8	29.3	30.4	30.1	29.6	30.3	30.1	29.8	29.9	30.5	29.8
Chemistry	27.9	28.3	28.3	28.6	28.3	28.5	29.1	28.6	29.0	28.8	28.6	29.1	29.1
Earth/atmos/ocean	30.5	29.9	29.8	30.0	31.0	31.0	31.9	30.7	32.0	31.7	30.9	32.4	31.7
Mathematics	30.2	29.5	29.7	29.6	30.0	30.2	30.5	31.3	31.1	30.6	30.2	31.4	30.9
Computer/info sci	30.0	30.2	32.0	32.3	33.7	33.5	32.5	31.9	33.6	34.6	32.9	33.8	32.5
Agric & biol sci	29.5	29.6	29.6	30.1	30.2	30.8	30.9	30.7	30.9	31.3	30.4	31.4	31.3
Agricultural sci	29.8	30.4	29.7	31.5	29.9	31.5	30.9	31.4	32.1	32.2	31.1	32.8	32.4
Biological sci	29.4	29.5	29.5	30.0	30.3	30.7	30.8	30.6	30.8	31.1	30.3	31.2	31.2
Social sciences	32.5	32.9	33.2	33.6	33.5	34.7	34.2	34.5	35.5	35.3	34.0	35.3	35.2
Psychology	30.9	31.7	31.9	32.4	32.7	32.7	33.4	33.3	34.2	33.9	32.7	33.9	34.0
Total, engineering(1)	28.9	29.0	29.5	30.0	29.8	29.4	30.3	29.8	29.5	29.9	29.6	30.2	30.5
Chemical	*	*	*	28.8	28.8	28.5	29.2	29.0	28.2	28.3	28.6	28.6	29.3
Civil	*	*	*	*	*	*	*	*	31.0	33.5	31.2	33.2	32.8
Electrical	*	*	*	*	*	29.2	30.5	29.2	29.0	29.2	29.3	29.6	30.9
Materials sci	*	*	*	*	*	29.9	*	29.8	29.0	30.8	29.4	29.6	30.0
Mechanical	*	*	*	*	*	28.9	*	*	31.0	30.6	29.9	30.7	31.0
Total, non-S&E(2)	36.1	36.5	36.5	36.8	37.5	37.9	38.5	38.8	39.3	39.9	37.9	40.0	40.6
Total, all fields	33.5	33.8	34.0	34.4	34.8	35.1	35.4	35.4	35.8	36.0	34.8	36.1	36.1

NOTE: See Technical Notes for calculation method of median age.

*Asterisks indicate too few cases (under 20) present within a cell to compute a median.
(1) Subtotal includes doctorate recipients whose engineering fields are not separately shown.
(2) Non-S&E doctorate recipients include those whose field of specialization is unknown.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

Table 5. Median lapsed years between receipt of baccalaureate and science and engineering (S&E) doctoral degree, by sex and major field of recipients: 1970-91, and totals for 1960-64 and 1965-69

	Year of doctorate													
Sex and major field	1960-1964	1965-1969	1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1970-1979
TOTAL, MALE AND FEMALE														
Total, S&E	7.3	6.8	7.0	6.6	6.8	7.1	7.2	7.3	7.3	7.3	7.4	7.5	7.5	7.2
Total, sciences	7.4	6.7	7.0	6.5	6.7	7.0	7.2	7.2	7.2	7.3	7.4	7.5	7.5	7.1
Physical sciences	6.2	5.9	6.0	6.0	6.1	6.3	6.5	6.5	6.5	6.5	6.7	6.7	6.4	6.4
Physics/astronomy	6.8	6.4	6.5	6.5	6.7	6.8	7.0	7.2	7.2	7.0	7.3	7.3	7.0	6.9
Chemistry	5.8	5.5	5.6	5.6	5.7	5.9	6.1	6.0	6.1	6.2	6.3	6.3	6.0	6.0
Earth/atmos/ocean	7.8	7.6	7.6	7.7	7.7	7.9	7.8	8.1	7.9	7.7	8.0	7.9	7.6	7.8
Mathematics	6.9	6.0	6.2	6.0	6.3	6.7	6.8	7.0	6.9	6.9	6.9	7.1	7.1	6.7
Computer/info sci	*	*	*	*	*	*	*	*	*	*	7.7	7.8	7.5	7.7
Agric & biol sci	7.6	7.1	7.3	6.5	6.6	6.9	7.0	7.0	7.0	7.1	7.1	7.2	7.2	7.0
Agricultural sci	7.7	7.9	7.8	7.2	7.7	7.7	7.9	7.9	8.0	8.2	8.0	7.9	7.9	7.8
Biological sci	7.6	6.9	7.1	6.4	6.5	6.7	6.9	6.9	6.8	6.9	7.0	7.0	7.0	6.8
Social sciences	9.4	8.4	8.8	8.1	8.1	8.1	8.3	8.5	8.6	8.6	8.9	8.9	9.3	8.5
Psychology	7.8	6.8	7.2	6.4	6.3	6.6	6.7	6.8	6.8	6.9	7.2	7.4	7.7	6.9
Total, engineering(1)	7.0	7.1	7.1	6.9	7.2	7.5	7.7	7.6	7.5	7.5	7.5	7.5	7.6	7.4
Chemical	6.2	5.9	6.0	6.3	6.2	6.3	6.5	6.5	6.8	6.5	6.6	6.6	5.9	6.4
Civil	7.8	8.0	7.9	7.2	7.9	7.8	8.7	8.8	8.6	8.8	8.4	7.9	8.3	8.2
Electrical	6.9	7.0	7.0	6.7	6.9	7.3	7.5	7.4	7.2	7.3	7.3	7.0	7.6	7.2
Materials sci	*	7.8	7.8	6.6	7.8	7.8	7.1	7.5	7.6	7.3	6.9	7.0	7.8	7.3
Mechanical	7.3	7.3	7.3	7.3	7.5	7.8	8.0	7.9	7.8	7.9	7.9	8.1	7.5	7.8
Total, non-S&E(2)	11.6	11.6	11.6	10.9	10.9	10.7	10.7	10.6	10.9	11.1	11.2	11.4	11.5	11.0
Total, all fields	8.7	8.1	8.3	7.9	7.9	8.2	8.4	8.5	8.6	8.6	8.7	8.9	9.0	8.5
MALE														
Total, S&E	7.2	6.8	6.9	6.5	6.7	7.0	7.2	7.3	7.3	7.3	7.4	7.4	7.4	7.1
Total, sciences	7.3	6.7	6.9	6.5	6.6	6.9	7.1	7.2	7.2	7.2	7.4	7.4	7.4	7.1
Physical sciences	6.2	5.9	6.0	6.0	6.1	6.3	6.5	6.5	6.5	6.5	6.8	6.8	6.3	6.4
Physics/astronomy	6.8	6.4	6.5	6.5	6.6	6.8	7.0	7.1	7.2	7.0	7.3	7.3	7.0	6.9
Chemistry	5.8	5.4	5.5	5.6	5.6	5.9	6.1	6.0	6.1	6.2	6.3	6.4	5.9	6.0
Earth/atmos/ocean	7.7	7.6	7.6	7.7	7.7	8.0	7.8	8.0	7.9	7.7	8.1	7.9	7.6	7.9
Mathematics	6.8	5.9	6.1	6.0	6.3	6.7	6.9	7.0	6.9	6.9	6.8	7.1	7.0	6.7
Computer/info sci	*	*	*	*	*	*	*	*	*	*	7.6	7.9	7.3	7.5
Agric & biol sci	7.6	7.1	7.3	6.5	6.6	6.9	7.0	7.1	7.1	7.1	7.1	7.1	7.2	7.0
Agricultural sci	7.7	7.9	7.8	7.2	7.6	7.6	7.9	7.8	8.0	8.2	8.0	7.9	8.1	7.8
Biological sci	7.5	6.8	7.1	6.4	6.4	6.7	6.8	6.9	6.8	6.9	6.9	6.9	7.0	6.8
Social sciences	9.3	8.3	8.7	8.1	8.0	8.0	8.3	8.4	8.5	8.5	8.8	8.7	9.1	8.4
Psychology	7.5	6.5	6.9	6.2	6.1	6.3	6.5	6.6	6.7	6.8	7.1	7.3	7.5	6.7
Total, engineering(1)	7.0	7.1	7.0	6.9	7.2	7.5	7.7	7.6	7.5	7.5	7.5	7.5	7.6	7.4
Chemical	6.2	5.9	6.0	6.3	6.2	6.3	6.5	6.5	6.8	6.4	6.7	6.6	5.9	6.4
Civil	7.8	8.0	7.9	7.3	7.9	7.9	8.8	8.8	8.6	8.8	8.4	8.0	8.3	8.3
Electrical	6.9	7.0	7.0	6.7	6.9	7.3	7.5	7.4	7.3	7.3	7.3	7.0	7.6	7.2
Materials sci	*	7.8	7.8	6.6	7.8	7.8	7.1	7.5	7.6	7.2	7.0	7.0	7.8	7.3
Mechanical	7.3	7.3	7.3	7.3	7.5	7.8	8.1	7.9	7.9	7.9	8.0	8.1	7.5	7.8
Total, non-S&E(2)	11.2	11.3	11.2	10.7	10.6	10.4	10.4	10.4	10.7	10.9	10.9	11.1	11.2	10.7
Total, all fields	8.4	7.9	8.1	7.6	7.7	8.0	8.2	8.3	8.4	8.4	8.4	8.5	8.6	8.2
FEMALE														
Total, S&E	8.8	7.5	7.9	7.1	7.4	7.4	7.3	7.3	7.3	7.5	7.4	7.9	8.0	7.5
Total, sciences	8.8	7.5	7.9	7.1	7.4	7.4	7.4	7.3	7.3	7.5	7.5	7.9	8.0	7.5
Physical sciences	6.4	6.1	6.2	6.6	6.3	6.5	6.5	6.4	6.3	6.3	6.4	6.5	6.5	6.4
Physics/astronomy	9.4	6.4	6.8	7.2	7.1	6.9	7.1	7.6	6.9	6.4	7.2	7.4	7.3	7.1
Chemistry	6.1	6.0	6.1	6.4	6.1	6.3	6.4	6.0	6.0	6.3	6.1	6.2	6.3	6.2
Earth/atmos/ocean	*	7.5	8.4	*	*	7.3	6.8	8.8	8.0	7.8	7.0	7.5	7.1	7.4
Mathematics	7.1	6.9	7.0	6.8	6.6	6.9	6.6	6.7	7.3	7.0	7.2	7.2	7.2	7.0
Computer/info sci	*	*	*	*	*	*	*	*	*	*	*	*	8.6	8.4
Agric & biol sci	8.5	7.1	7.5	6.5	7.0	6.8	7.1	6.8	6.7	7.0	7.1	7.4	7.2	7.0
Agricultural sci	9.0	8.6	8.7	9.0	8.4	9.0	7.4	8.5	7.3	8.4	7.9	8.4	6.5	7.9
Biological sci	8.5	7.1	7.4	6.4	7.0	6.8	7.1	6.7	6.7	7.0	7.1	7.4	7.3	7.0
Social sciences	11.4	10.3	10.7	8.7	9.3	9.0	8.7	8.7	8.8	9.0	9.1	9.5	10.2	9.1
Psychology	9.5	8.1	8.6	7.3	7.3	7.4	7.2	7.1	7.1	7.1	7.2	7.6	8.0	7.4
Total, engineering(1)	8.0	7.6	7.8	*	*	7.5	6.8	6.8	6.8	7.6	6.4	7.4	6.9	7.0
Chemical	*	*	*	*	*	*	*	*	*	*	*	*	*	6.2
Civil	*	*	*	*	*	*	*	*	*	*	*	*	*	6.7
Electrical	*	*	*	*	*	*	*	*	*	*	*	*	*	6.7
Materials sci	*	*	*	*	*	*	*	*	*	*	*	*	*	8.1
Mechanical	*	*	*	*	*	*	*	*	*	*	*	*	*	6.7
Total, non-S&E(2)	14.9	13.8	14.2	12.5	12.4	12.0	11.7	11.2	11.5	11.5	11.8	12.0	12.1	11.8
Total, all fields	12.0	10.5	11.1	9.6	9.8	9.7	9.7	9.4	9.5	9.7	9.7	10.1	10.3	9.8

See footnotes at end of table.

Table 5. Median lapsed years between receipt of baccalaureate and science and engineering (S&E) doctoral degree, by sex and major field of recipients: 1970-91, and totals for 1960-64 and 1965-69--continued

Sex and major field	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-1989	1990	1991
TOTAL, MALE AND FEMALE													
Total, S&E	7.6	7.7	7.9	8.1	8.3	8.4	8.5	8.5	8.6	8.6	8.2	8.6	8.7
Total, sciences	7.6	7.6	7.8	8.1	8.3	8.4	8.6	8.7	8.7	8.7	8.3	8.8	8.8
Physical sciences	6.5	6.4	6.5	6.6	6.7	6.8	6.8	6.8	6.8	6.8	6.7	7.0	7.2
Physics/astronomy	7.2	7.0	7.4	7.2	7.2	7.4	7.3	7.3	7.3	7.2	7.3	7.5	7.5
Chemistry	6.0	6.0	6.0	6.2	6.3	6.4	6.5	6.5	6.5	6.5	6.3	6.7	6.8
Earth/atmos/ocean	8.1	8.3	8.3	8.4	8.8	8.8	9.0	9.0	9.4	9.2	8.7	9.1	9.3
Mathematics	7.0	6.9	7.0	7.4	7.7	7.8	7.3	7.9	8.0	7.7	7.4	7.9	8.0
Computer/info sci	7.4	7.7	7.7	8.5	8.8	8.9	9.1	9.0	9.5	9.0	8.7	8.9	8.8
Agric & biol sci	7.1	7.1	7.3	7.6	7.9	8.0	8.3	8.3	8.4	8.6	7.9	8.5	8.6
Agricultural sci	8.0	7.9	8.0	8.4	8.4	8.8	9.1	9.5	9.7	10.0	8.8	10.3	10.2
Biological sci	7.0	7.0	7.2	7.4	7.8	7.9	8.1	8.1	8.2	8.3	7.7	8.2	8.3
Social sciences	9.4	9.5	9.8	9.9	10.1	10.5	10.4	10.9	10.9	10.7	10.2	11.1	11.0
Psychology	7.9	8.4	8.6	9.0	9.3	9.4	9.7	9.9	10.1	10.1	9.2	10.1	10.1
Total, engineering(1)	7.6	7.9	8.0	8.0	8.0	8.1	8.1	8.1	8.1	8.2	8.0	8.2	8.5
Chemical	6.5	6.6	6.9	6.7	6.7	6.8	6.8	6.7	6.8	6.7	6.7	6.8	6.9
Civil	8.4	8.4	8.5	8.5	8.5	8.7	8.7	9.2	8.9	9.2	8.7	9.3	9.1
Electrical	7.3	7.5	7.7	7.8	8.0	7.9	7.9	7.7	7.8	7.7	7.7	7.9	8.3
Materials sci	7.0	7.3	7.8	8.1	7.4	7.3	8.0	7.9	7.9	8.1	7.7	7.8	8.5
Mechanical	7.9	7.9	8.2	8.3	7.8	8.1	8.2	8.1	8.4	8.6	8.2	8.4	8.7
Total, non-S&E(2)	12.0	12.2	12.5	12.8	13.3	13.7	14.1	14.3	14.7	15.0	13.4	15.2	15.5
Total, all fields	9.3	9.4	9.6	9.8	10.0	10.2	10.4	10.4	10.5	10.5	10.0	10.5	10.4
MALE													
Total, S&E	7.5	7.6	7.8	7.9	8.1	8.2	8.3	8.4	8.4	8.4	8.1	8.4	8.5
Total, sciences	7.5	7.5	7.7	7.9	8.1	8.2	8.4	8.5	8.5	8.5	8.1	8.5	8.5
Physical sciences	6.5	6.4	6.5	6.6	6.7	6.8	6.9	6.9	6.9	6.9	6.7	7.1	7.3
Physics/astronomy	7.2	7.0	7.3	7.2	7.2	7.4	7.3	7.3	7.3	7.2	7.2	7.4	7.5
Chemistry	6.1	6.0	6.0	6.2	6.3	6.4	6.5	6.6	6.5	6.5	6.3	6.7	6.9
Earth/atmos/ocean	8.1	8.4	8.4	8.5	8.9	8.8	8.9	9.1	9.4	9.2	8.8	9.0	9.3
Mathematics	6.9	6.9	7.0	7.3	7.7	7.8	7.2	7.7	7.9	7.7	7.4	7.8	8.0
Computer/info sci	7.3	7.7	7.6	8.4	8.7	8.7	9.1	9.0	9.3	8.6	8.6	8.6	8.7
Agric & biol sci	7.1	7.1	7.3	7.6	7.9	8.0	8.3	8.4	8.4	8.6	7.8	8.5	8.6
Agricultural sci	8.1	8.0	8.1	8.4	8.6	8.8	9.2	9.6	9.8	10.2	8.8	10.3	10.3
Biological sci	6.9	7.0	7.2	7.4	7.7	7.7	8.0	8.1	8.1	8.2	7.6	8.1	8.2
Social sciences	9.3	9.3	9.6	9.7	9.9	10.2	10.2	10.6	10.6	10.2	9.9	10.5	10.6
Psychology	7.7	8.2	8.3	8.8	9.1	9.3	9.6	9.9	9.9	10.2	8.9	10.1	10.0
Total, engineering(1)	7.7	7.9	8.0	8.0	8.0	8.2	8.2	8.2	8.2	8.3	8.1	8.2	8.5
Chemical	6.6	6.6	7.0	6.7	6.7	6.9	6.9	6.6	6.9	6.8	6.8	6.8	6.9
Civil	8.4	8.4	8.4	8.5	8.6	8.7	8.7	9.2	8.9	9.1	8.7	9.2	9.1
Electrical	7.3	7.5	7.7	7.8	8.0	7.9	7.9	7.8	7.9	7.8	7.8	8.0	8.3
Materials sci	7.0	7.3	8.0	8.1	7.7	7.3	8.1	8.0	8.0	8.1	7.8	7.9	8.7
Mechanical	8.0	7.9	8.2	8.3	7.9	8.2	8.3	8.1	8.5	8.6	8.2	8.4	8.8
Total, non-S&E(2)	11.6	11.7	12.1	12.4	12.8	13.1	13.4	13.5	13.9	14.1	12.7	14.1	14.3
Total, all fields	8.8	8.8	9.0	9.1	9.3	9.5	9.5	9.7	9.7	9.7	9.3	9.6	9.6
FEMALE													
Total, S&E	8.0	8.1	8.3	8.6	8.7	8.9	9.1	9.1	9.1	9.1	8.7	9.1	9.1
Total, sciences	8.0	8.2	8.3	8.6	8.8	9.0	9.2	9.1	9.2	9.2	8.8	9.3	9.2
Physical sciences	6.1	6.4	6.4	6.6	6.5	6.6	6.5	6.6	6.5	6.6	6.5	6.9	6.8
Physics/astronomy	7.1	7.6	7.5	7.3	7.7	7.7	7.3	7.7	7.4	7.3	7.4	7.7	7.6
Chemistry	5.7	6.1	6.2	6.3	6.2	6.3	6.4	6.2	6.3	6.4	6.2	6.6	6.5
Earth/atmos/ocean	8.0	7.6	7.7	8.0	8.7	8.7	9.3	8.4	9.0	9.3	8.5	9.6	9.2
Mathematics	8.2	7.3	7.6	7.5	7.9	7.6	8.0	9.4	8.6	7.9	7.9	8.4	8.0
Computer/info sci	8.3	7.8	10.0	10.0	11.0	11.5	9.3	9.3	11.1	12.5	10.6	11.5	9.9
Agric & biol sci	7.2	7.2	7.3	7.6	7.9	8.3	8.3	8.3	8.4	8.5	8.0	8.6	8.5
Agricultural sci	7.2	7.6	7.4	8.6	7.5	8.6	8.7	8.9	9.4	9.4	8.4	10.4	9.8
Biological sci	7.2	7.2	7.3	7.5	8.0	8.2	8.2	8.2	8.3	8.4	7.9	8.4	8.4
Social sciences	9.8	10.0	10.4	10.5	10.8	11.6	10.9	11.4	11.7	11.7	10.9	12.1	11.7
Psychology	8.3	8.6	9.0	9.2	9.4	9.5	9.9	9.9	10.3	10.1	9.4	10.0	10.2
Total, engineering(1)	6.6	7.1	7.6	7.7	7.3	7.1	7.6	7.3	7.0	7.3	7.3	7.8	8.0
Chemical	*	*	*	6.5	6.2	6.3	6.4	6.9	6.1	6.3	6.4	6.4	6.6
Civil	*	*	*	*	*	*	*	*	7.0	10.5	8.8	10.7	9.0
Electrical	*	*	*	*	*	7.4	8.5	6.1	6.8	6.6	6.9	7.2	8.5
Materials sci	*	*	*	*	*	8.0	*	7.7	6.8	7.9	7.2	7.3	7.8
Mechanical	*	*	*	*	*	6.7	*	*	7.8	7.5	7.2	8.6	8.7
Total, non-S&E(2)	12.6	13.0	13.2	13.4	14.0	14.5	14.9	15.1	15.5	16.0	14.3	16.3	16.6
Total, all fields	10.5	10.9	11.0	11.2	11.6	12.0	12.1	12.2	12.4	12.5	11.6	12.6	12.4

NOTE: See Technical Notes for calculation method of median lapsed time between baccalaureate and doctorate.

*Asterisks indicate too few cases (under 20) present within a cell to compute a median.
(1) Subtotal includes doctorate recipients whose engineering fields are not separately shown.
(2) Non-S&E doctorate recipients include those whose field of specialization is unknown.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

Table 6. Non-U.S. citizens awarded science and engineering (S&E) doctorates, by major field and country of citizenship of recipients(1): 1980-91, and totals for 1960-64, 1965-69, 1970-74, and 1975-79

Major field and country of citizenship	Year of doctorate															
	1960-1964	1965-1969	1970-1974	1975-1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
TOTAL, S&E																
Total, foreign citizenship	6,138	11,806	18,909	18,705	3,662	3,855	3,981	4,298	4,527	4,957	5,128	5,536	6,047	6,499	7,721	8,504
Canada	718	1,238	1,615	978	155	158	148	179	173	152	177	181	203	220	251	276
Mexico & Central America	85	189	252	348	71	97	89	126	105	120	122	114	124	154	156	169
Mexico	56	130	182	255	57	75	70	96	76	101	97	86	92	120	103	126
Caribbean	21	113	135	129	21	23	20	22	32	32	29	23	28	29	36	51
South America	136	433	1,020	1,261	268	292	240	269	276	254	300	311	295	297	339	372
Argentina	22	77	213	118	25	27	24	34	41	32	40	28	38	43	66	60
Brazil	29	104	257	481	123	135	93	101	108	83	96	112	94	100	98	114
Chile	31	81	156	193	26	34	28	35	31	41	44	45	45	47	50	52
Colombia	21	58	143	145	22	19	27	25	32	22	24	27	46	27	40	48
Europe	719	1,395	2,577	2,106	359	405	417	454	466	491	559	623	689	709	796	929
Belgium	20	60	128	78	11	20	15	15	17	19	20	16	21	15	31	43
England	233	450	738	541	87	100	90	87	100	103	76	94	115	96	99	125
France	33	87	233	192	16	25	40	33	48	28	34	48	53	51	64	65
Germany	76	162	287	169	27	35	36	43	39	48	62	74	78	102	122	114
Greece	88	170	262	302	63	64	60	66	78	68	103	123	118	137	125	158
Italy	27	55	103	78	15	17	23	30	35	45	48	46	63	56	63	81
East Asia	1,002	2,699	4,930	4,700	848	886	1,067	1,191	1,348	1,553	1,660	1,968	2,237	2,555	3,592	4,298
Taiwan	-	-	856	2,015	423	444	560	604	664	743	707	787	786	854	1,009	1,082
China, Peoples Rep of	-	-	-	-	2	-	3	13	60	137	198	290	478	610	1,017	1,596
China, unspecified	515	1,721	2,139	353	3	1	3	-	2	3	2	9	5	14	149	141
Hong Kong	3	63	240	484	92	100	92	98	87	94	73	87	81	93	94	115
Japan	191	280	513	435	69	77	88	103	102	97	108	83	103	105	147	120
Korea	196	436	727	703	131	135	172	236	266	323	398	547	620	750	970	1,067
Thailand	59	106	238	469	76	83	92	88	108	96	108	95	96	76	111	88
West Asia	1,544	3,102	4,959	4,347	905	926	1,015	1,141	1,180	1,188	1,206	1,222	1,225	1,306	1,638	1,574
India	997	1,857	2,867	2,145	371	379	357	383	437	458	469	503	520	537	705	719
Iran	76	195	424	597	205	194	247	278	287	233	213	182	172	198	257	211
Iraq	74	149	159	85	27	27	26	43	26	41	27	43	36	25	27	21
Israel	136	292	440	434	66	94	82	109	78	66	79	66	61	68	74	85
Lebanon	34	85	105	111	19	19	21	24	28	26	28	43	39	51	45	53
Turkey	43	123	340	374	65	49	68	68	72	84	84	86	81	78	105	94
Pakistan	100	246	277	159	42	26	43	38	37	46	59	59	52	61	76	90
Australasia	277	578	838	594	120	129	146	159	157	147	148	135	155	166	173	200
Australia	103	184	308	187	45	36	46	50	51	39	34	42	39	41	45	33
Indonesia, Republic of	35	84	94	114	20	39	34	47	37	42	40	42	42	52	53	62
New Zealand	37	88	112	90	24	14	19	18	16	19	17	14	17	27	16	21
Philippines	102	221	322	203	30	40	47	44	51	45	57	35	56	45	58	84
Africa	250	758	1,188	1,212	319	383	391	426	452	501	448	405	449	444	536	473
Egypt	152	490	406	219	74	79	83	93	90	107	100	98	115	109	159	109
Nigeria	-	-	113	354	88	129	98	106	94	117	79	89	87	58	82	77
Country unknown	1,386	1,301	1,395	3,030	596	556	448	331	338	519	479	554	642	619	204	162
TOTAL, SCIENCES																
Total, foreign citizenship	4,812	8,651	13,385	12,922	2,512	2,612	2,655	2,809	2,984	3,223	3,413	3,649	3,960	4,193	5,061	5,650
Canada	621	998	1,424	891	135	141	130	156	151	130	159	152	175	182	211	225
Mexico & Central America	76	153	199	262	54	73	72	92	83	93	97	87	91	121	120	143
Mexico	49	104	135	181	44	54	57	67	57	77	77	65	65	92	78	105
Caribbean	18	94	114	115	19	23	17	13	27	25	23	17	26	24	29	48
South America	112	342	814	983	216	218	175	193	214	201	237	232	226	224	255	291
Argentina	22	69	197	97	15	21	19	26	31	21	30	19	32	37	54	48
Brazil	19	74	176	366	99	99	64	75	81	68	79	74	69	70	67	82
Chile	27	64	125	163	23	24	21	24	29	35	36	35	36	38	39	44
Colombia	18	46	108	109	19	16	23	20	21	18	20	20	37	22	32	37
Europe	560	1,049	1,888	1,591	271	302	304	334	357	380	411	471	518	511	591	744
Belgium	13	40	85	49	7	15	8	8	11	10	16	10	15	10	19	34
England	198	371	625	478	68	84	74	77	88	97	64	85	104	82	85	115
France	17	52	137	128	10	17	28	19	31	17	21	32	31	33	37	46
Germany	65	125	213	134	22	27	30	40	37	41	52	67	67	85	107	107
Greece	69	122	164	193	41	36	37	34	43	38	54	62	60	67	68	96
Italy	20	42	74	68	13	15	18	23	25	38	40	36	56	41	49	69
East Asia	692	1,741	3,254	3,129	544	524	645	710	766	887	978	1,165	1,348	1,567	2,328	2,755
Taiwan	-	-	549	1,267	251	226	303	327	342	356	356	389	386	427	535	509
China, Peoples Rep of	-	-	-	-	1	-	3	8	33	89	143	206	345	454	728	1,181
China, unspecified	294	992	1,331	238	3	-	1	-	2	3	-	6	4	6	104	104
Hong Kong	3	51	194	342	63	71	60	68	57	66	46	65	48	55	64	87
Japan	152	208	313	295	42	46	57	72	64	72	80	68	79	86	130	92
Korea	160	322	497	453	90	85	109	132	151	190	223	309	363	442	611	655
Thailand	51	84	198	329	56	60	67	61	72	71	82	75	72	60	90	70
West Asia	1,204	2,231	3,098	2,487	548	554	603	650	716	674	736	745	693	728	901	849
India	794	1,328	1,618	1,105	187	203	197	205	243	246	265	299	265	285	392	381
Iran	50	135	254	339	126	120	148	140	168	117	113	94	91	88	118	97
Iraq	64	118	118	61	21	23	22	36	20	35	23	33	28	16	13	13
Israel	85	202	338	297	45	61	57	64	56	44	55	47	38	49	55	59
Lebanon	32	65	74	78	13	11	13	11	13	15	17	16	21	26	10	16
Turkey	20	50	185	180	34	19	25	32	31	28	35	43	39	26	47	33
Pakistan	91	205	227	112	34	18	30	25	27	28	36	42	32	46	50	58
Australasia	247	501	722	526	106	118	125	136	128	119	127	111	131	140	148	160
Australia	91	158	259	167	41	32	42	42	46	35	28	37	37	39	42	26
Indonesia, Republic of	28	74	78	96	16	35	27	38	26	27	31	29	31	40	39	45
New Zealand	37	77	99	83	20	14	13	18	12	15	16	12	13	24	14	19
Philippines	91	191	284	180	28	37	43	38	42	40	52	31	49	36	52	70
Africa	200	609	883	902	223	279	293	301	313	364	330	298	311	304	349	324
Egypt	113	384	234	98	35	38	45	50	45	59	47	58	68	60	77	54
Nigeria	-	-	97	279	68	98	82	77	64	88	64	73	66	47	59	59
Country unknown	1,082	933	989	2,036	396	380	291	224	229	350	315	371	441	392	129	111

See footnotes at end of table.

Table 6. Non-U.S. citizens awarded science and engineering (S&E) doctorates, by major field and country of citizenship of recipients(1): 1980-91, and totals for 1960-64, 1965-69, 1970-74, and 1975-79--continued

Major field and country of citizenship	Year of doctorate															
	1960-1964	1965-1969	1970-1974	1975-1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
PHYSICAL SCIENCES																
Total, foreign citizenship	1,256	2,231	3,413	3,099	577	589	625	659	683	755	891	945	1,001	1,034	1,232	1,383
Canada	108	176	213	97	19	18	14	24	20	19	24	22	28	22	36	33
Mexico & Central America	13	22	36	37	5	4	12	14	15	12	17	16	15	10	16	19
Mexico	11	18	24	26	4	3	9	10	9	12	15	14	11	6	11	14
Caribbean	4	12	21	15	3	4	4	2	4	4	5	3	4	5	4	8
South America	28	58	150	153	27	28	25	34	36	38	41	35	36	34	37	42
Argentina	6	14	50	16	6	3	5	4	11	2	3	1	10	6	4	5
Brazil	6	20	30	35	7	8	8	6	5	7	7	6	5	5	8	9
Chile	8	8	26	35	5	5	3	8	4	11	6	6	4	6	8	2
Colombia	1	3	15	18	3	1	2	4	5	3	5	4	4	4	7	7
Europe	161	273	469	349	56	67	73	76	79	94	108	127	126	118	135	177
Belgium	3	11	19	10	1	1	3	-	2	2	4	1	3	2	4	6
England	50	84	135	81	12	19	10	17	21	22	10	19	19	14	17	32
France	5	16	39	20	2	3	7	5	7	7	6	13	4	9	7	11
Germany	23	39	49	26	5	7	8	5	8	4	16	22	16	24	32	34
Greece	26	46	63	66	13	4	10	11	16	9	19	17	20	20	17	25
Italy	3	11	30	17	1	5	9	9	3	12	9	8	15	7	15	19
East Asia	263	723	1,282	1,040	169	164	199	220	233	254	345	394	422	511	698	830
Taiwan	-	-	227	528	99	96	124	122	125	112	136	132	104	133	141	128
China, Peoples Rep of	-	-	-	-	1	-	3	3	19	35	72	112	171	213	293	445
China, unspecified	126	464	604	108	1	-	-	-	-	2	-	2	4	2	30	39
Hong Kong	3	32	106	148	26	22	21	34	17	21	24	24	15	16	20	28
Japan	54	83	111	76	6	12	12	14	15	13	21	15	11	12	16	14
Korea	66	104	161	113	23	24	24	29	38	52	65	89	98	114	165	154
Thailand	6	6	21	32	10	4	10	12	11	13	20	9	9	12	20	7
West Asia	312	554	734	682	166	162	179	178	193	197	220	208	199	184	215	184
India	221	404	484	424	91	92	94	79	102	107	113	100	103	93	116	80
Iran	13	21	59	70	29	30	30	28	33	26	24	34	25	30	27	30
Iraq	12	19	17	1	-	1	2	6	2	1	4	3	3	2	1	-
Israel	21	31	33	50	5	8	8	5	7	5	6	8	2	5	4	8
Lebanon	11	15	23	15	3	4	5	3	3	5	6	4	5	1	3	3
Turkey	6	19	37	38	12	3	10	11	6	6	6	13	10	6	8	9
Pakistan	15	22	27	26	11	3	7	7	5	3	10	10	6	5	4	4
Australasia	37	76	122	59	9	12	13	10	13	10	14	7	22	23	23	18
Australia	10	16	30	18	3	3	4	3	3	3	1	3	4	6	1	3
Indonesia, Republic of	9	15	19	6	2	2	2	1	2	3	1	-	4	4	5	1
New Zealand	4	19	14	10	2	-	1	4	-	2	7	1	3	4	3	2
Philippines	14	25	59	25	2	7	6	2	7	2	5	3	11	9	13	12
Africa	29	88	103	92	16	22	32	38	36	38	34	41	25	34	40	43
Egypt	23	62	38	21	3	7	7	12	3	11	4	13	4	7	11	2
Nigeria	-	-	5	23	6	4	6	6	7	10	7	6	6	1	5	6
Country unknown	301	249	283	575	107	108	74	63	54	89	83	92	124	93	28	29
PHYSICS & ASTRONOMY																
Total, foreign citizenship	501	1,005	1,643	1,472	240	256	277	307	302	338	405	455	485	488	605	615
Canada	51	97	114	61	12	8	8	14	14	12	14	15	17	17	22	23
Mexico & Central America	6	10	19	15	1	2	7	8	11	5	11	10	9	3	7	7
Mexico	6	9	16	12	1	2	7	6	7	5	9	10	8	1	6	5
Caribbean	2	5	10	7	1	-	1	-	-	1	3	-	2	2	2	-
South America	15	35	93	74	19	11	16	22	17	19	22	16	18	17	20	22
Argentina	4	8	42	10	5	2	5	4	6	1	3	1	6	3	1	3
Brazil	5	17	22	24	5	2	4	3	4	5	5	3	3	4	6	7
Chile	4	3	14	15	3	3	2	4	2	7	4	1	3	3	5	2
Colombia	-	1	2	4	1	1	2	2	1	2	3	-	2	2	3	4
Europe	60	152	299	221	36	38	45	45	47	53	67	81	77	71	86	102
Belgium	3	7	14	10	1	-	2	-	2	1	4	1	2	2	4	5
England	12	43	76	44	9	10	2	5	11	10	5	10	7	4	9	13
France	4	8	22	11	1	3	6	3	3	3	3	5	1	6	3	1
Germany	15	20	29	17	3	4	6	4	7	3	11	18	10	15	21	25
Greece	4	21	44	49	7	2	6	9	7	5	8	9	13	13	10	17
Italy	1	8	23	12	1	3	6	8	3	10	8	6	12	6	15	16
East Asia	112	300	516	426	57	69	70	82	87	113	158	182	204	219	338	344
Taiwan	-	-	86	211	26	39	41	41	38	35	45	36	33	42	51	40
China, Peoples Rep of	-	-	-	-	1	-	2	-	13	24	57	77	100	114	154	195
China, unspecified	46	194	227	37	-	-	-	-	-	2	-	2	3	1	15	20
Hong Kong	1	14	61	64	15	9	8	18	10	12	8	16	11	7	15	18
Japan	25	29	43	35	4	6	7	7	9	8	11	8	4	6	9	6
Korea	36	46	74	51	10	11	10	11	13	27	27	38	47	46	84	55
Thailand	-	2	6	11	-	1	1	2	2	4	6	1	2	1	3	-
West Asia	130	230	400	367	66	81	82	96	91	78	84	95	85	87	96	74
India	88	176	277	233	35	43	42	41	50	39	39	41	44	40	48	30
Iran	6	7	32	36	9	13	11	15	18	8	8	20	14	17	12	11
Iraq	4	5	3	-	-	1	1	6	2	-	2	1	1	2	-	-
Israel	8	17	15	29	4	7	4	4	3	4	5	4	1	3	4	5
Lebanon	7	6	16	3	-	2	2	1	1	5	3	-	4	1	-	1
Turkey	4	6	23	25	8	3	8	6	2	4	5	6	5	5	4	6
Pakistan	9	6	12	10	2	2	4	4	1	1	3	5	1	2	1	1
Australasia	8	35	41	32	4	3	7	4	5	5	5	4	12	11	8	7
Australia	3	11	17	12	1	1	2	1	3	1	-	3	4	4	-	2
Indonesia, Republic of	3	8	9	2	2	1	1	-	-	3	-	-	2	2	3	-
New Zealand	-	10	6	7	1	-	-	2	-	1	4	1	2	3	2	2
Philippines	2	6	9	11	-	1	4	1	2	-	1	-	4	2	3	3
Africa	6	26	40	36	5	4	13	14	9	10	5	16	12	14	16	25
Egypt	2	13	9	8	1	1	4	4	1	5	1	6	2	3	4	1
Nigeria	-	-	2	6	2	-	1	1	-	1	1	2	4	-	1	1
Country unknown	111	115	111	233	39	40	28	22	21	42	36	36	49	47	10	11

See footnotes at end of table.

Table 6. Non-U.S. citizens awarded science and engineering (S&E) doctorates, by major field and country of citizenship of recipients(1): 1980-91, and totals for 1960-64, 1965-69, 1970-74, and 1975-79--continued

Major field and country of citizenship	Year of doctorate															
	1960-1964	1965-1969	1970-1974	1975-1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
CHEMISTRY																
Total, foreign citizenship	755	1,226	1,770	1,627	337	333	348	352	381	417	486	490	516	546	627	768
Canada	57	79	99	36	7	10	6	10	6	7	10	7	11	5	14	10
Mexico & Central America	7	12	17	22	4	2	5	6	4	7	6	6	6	7	9	12
Mexico	5	9	8	14	3	1	2	4	2	7	6	4	3	5	5	9
Caribbean	2	7	11	8	2	4	3	2	4	3	2	3	2	3	2	8
South America	13	23	57	79	8	17	9	12	19	19	19	19	18	17	17	20
Argentina	2	6	8	6	1	1	-	-	5	1	-	-	4	3	3	2
Brazil	1	3	8	11	2	6	4	1	1	2	2	3	2	1	2	2
Chile	4	5	12	20	2	2	1	4	2	4	2	5	1	3	3	-
Colombia	1	2	13	14	2	-	-	2	4	1	2	4	2	2	4	3
Europe	101	121	170	128	20	29	28	31	32	41	41	46	49	47	49	75
Belgium	-	4	5	-	-	1	1	-	-	1	-	-	1	-	-	1
England	38	41	59	37	3	9	8	12	10	12	5	9	12	10	8	19
France	1	8	17	9	1	-	1	2	4	4	3	8	3	3	4	10
Germany	8	19	20	9	2	3	2	1	1	1	5	4	6	9	11	9
Greece	22	25	19	17	6	2	4	2	9	4	11	8	7	7	7	8
Italy	2	3	7	5	-	2	3	1	-	2	1	2	3	1	-	3
East Asia	151	423	766	614	112	95	129	138	146	141	187	212	218	292	360	486
Taiwan	-	-	141	317	73	57	83	81	87	77	91	96	71	91	90	88
China, Peoples Rep of	-	-	-	-	-	-	1	3	6	11	15	35	71	99	139	250
China, unspecified	80	270	377	71	1	-	-	-	-	-	-	-	1	1	15	19
Hong Kong	2	18	45	84	11	13	13	16	7	9	16	8	4	9	5	10
Japan	29	54	68	41	2	6	5	7	6	5	10	7	7	6	7	8
Korea	30	58	87	62	13	13	14	18	25	25	38	51	51	68	81	99
Thailand	6	4	15	21	10	3	9	10	9	9	14	8	7	11	17	7
West Asia	182	324	334	315	100	81	97	82	102	119	136	113	114	97	119	110
India	133	228	207	191	56	49	52	38	52	68	74	59	59	53	68	50
Iran	7	14	27	34	20	17	19	13	15	18	16	14	11	13	15	19
Iraq	8	14	14	1	-	-	1	-	-	1	2	2	2	-	1	-
Israel	13	14	18	21	1	1	4	1	4	1	1	4	1	2	-	3
Lebanon	4	9	7	12	3	2	3	2	2	-	3	4	1	-	3	2
Turkey	2	13	14	13	4	-	2	5	4	2	1	7	5	1	4	3
Pakistan	6	16	15	16	9	1	3	3	4	2	7	5	5	3	3	3
Australasia	29	41	81	27	5	9	6	6	8	5	9	3	10	12	15	11
Australia	7	5	13	6	2	2	2	2	-	2	1	-	-	2	1	1
Indonesia, Republic of	6	7	10	4	-	1	1	1	2	-	1	-	2	2	2	1
New Zealand	4	9	8	3	1	-	1	2	-	1	3	-	1	1	1	-
Philippines	12	19	50	14	2	6	2	1	5	2	4	3	7	7	10	9
Africa	23	62	63	56	11	18	19	24	27	28	29	25	13	20	24	18
Egypt	21	49	29	13	2	6	3	8	2	6	3	7	2	4	7	1
Nigeria	-	-	3	17	4	4	5	5	7	9	6	4	2	1	4	5
Country unknown	190	134	172	342	68	68	46	41	33	47	47	56	75	46	18	18
EARTH, ATMOS, OCEAN SCI																
Total, foreign citizenship	220	380	544	560	106	101	110	136	131	151	130	150	168	154	198	214
Canada	65	102	90	56	8	7	8	8	5	9	10	9	7	9	10	13
Mexico & Central America	-	1	4	14	7	5	3	10	6	3	-	7	4	9	7	7
Mexico	-	1	4	12	7	5	2	8	5	3	-	6	3	8	6	4
Caribbean	-	1	3	7	-	1	-	-	-	-	-	1	-	-	-	2
South America	7	10	31	44	14	6	7	7	16	12	6	17	11	11	9	16
Argentina	1	3	5	3	1	1	2	2	5	1	1	1	-	3	2	1
Brazil	-	1	7	14	7	1	4	4	7	7	5	7	6	3	3	10
Chile	1	3	4	7	1	1	-	-	-	1	-	2	3	3	-	1
Colombia	1	1	2	6	1	1	1	-	-	1	-	1	1	-	1	1
Europe	26	61	89	73	7	21	18	19	17	22	24	25	39	26	33	37
Belgium	-	2	6	6	-	3	-	1	1	1	-	3	-	-	1	3
England	15	28	29	27	4	7	10	4	6	6	6	7	9	7	4	5
France	1	3	8	9	1	2	1	3	2	2	3	-	4	3	3	5
Germany	1	11	5	3	-	2	-	2	1	2	2	3	8	8	8	1
Greece	-	4	-	6	-	2	2	2	-	-	2	2	3	2	-	2
Italy	2	2	4	1	-	-	-	2	-	2	3	3	3	3	2	2
East Asia	15	37	92	129	28	12	32	40	31	53	35	45	50	55	97	93
Taiwan	-	-	23	64	20	9	23	22	20	28	13	22	13	20	17	17
China, Peoples Rep of	-	-	-	-	-	-	-	1	3	10	10	3	22	18	38	40
China, unspecified	8	27	44	11	-	-	-	-	-	-	-	-	-	1	7	8
Hong Kong	-	-	-	7	1	3	-	3	1	2	1	1	-	1	3	2
Japan	5	4	8	12	-	-	2	6	1	4	5	2	3	4	4	1
Korea	2	2	12	27	3	-	6	3	4	8	4	16	12	8	23	21
Thailand	-	1	4	6	2	-	-	3	2	1	1	1	-	2	4	2
West Asia	35	70	118	100	16	10	13	17	25	17	23	21	22	21	28	28
India	23	30	51	43	2	7	6	6	7	5	12	6	5	9	10	9
Iran	5	8	11	8	10	1	3	5	9	2	2	2	3	2	3	1
Iraq	-	10	3	-	-	-	1	-	-	-	2	-	-	1	1	-
Israel	4	8	20	15	2	-	-	2	2	3	5	5	2	4	3	4
Lebanon	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
Turkey	1	4	14	8	2	-	1	3	3	3	-	1	4	2	4	5
Pakistan	-	5	7	3	-	1	2	-	2	1	-	1	4	1	1	3
Australasia	17	33	44	32	4	9	10	6	9	7	9	9	7	9	3	5
Australia	7	15	28	18	4	3	5	5	5	4	3	5	1	4	1	1
Indonesia, Republic of	2	2	3	2	-	1	-	-	1	1	-	-	2	1	-	1
New Zealand	4	12	6	4	-	4	4	-	2	1	1	-	-	3	-	1
Philippines	4	4	7	8	-	1	1	1	1	1	5	4	4	1	2	2
Africa	6	31	42	27	9	17	9	15	13	12	10	4	12	9	5	12
Egypt	3	21	12	6	-	1	1	1	2	5	1	-	3	2	1	5
Nigeria	-	-	3	8	4	8	5	6	5	2	1	1	2	2	2	1
Country unknown	49	34	31	78	13	13	10	14	9	16	13	12	16	5	6	1

See footnotes at end of table.

Table 6. Non-U.S. citizens awarded science and engineering (S&E) doctorates, by major field and country of citizenship of recipients(1): 1980-91, and totals for 1960-64, 1965-69, 1970-74, and 1975-79--continued

Major field and country of citizenship	Year of doctorate															
	1960-1964	1965-1969	1970-1974	1975-1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
MATHEMATICS																
Total, foreign citizenship	349	668	1,192	1,133	201	229	233	255	268	280	308	353	349	381	471	535
Canada	36	92	110	66	13	10	13	15	7	10	7	10	11	11	11	16
Mexico & Central America	4	5	20	28	2	7	5	7	4	9	8	7	4	7	8	10
Mexico	4	5	18	26	2	6	4	7	3	9	7	6	4	7	7	8
Caribbean	2	2	8	4	-	2	-	-	-	1	1	1	2	2	-	-
South America	15	35	90	102	14	15	14	26	20	20	25	25	27	22	27	28
Argentina	3	10	39	19	3	1	1	5	5	5	4	2	3	8	6	4
Brazil	5	14	27	38	5	7	5	10	2	6	9	7	11	6	9	8
Chile	3	6	6	17	2	2	2	3	5	6	3	4	5	4	3	10
Colombia	2	2	9	9	1	3	3	1	4	2	3	3	4	1	-	2
Europe	48	107	218	181	27	42	55	45	53	47	59	72	67	76	88	85
Belgium	2	2	10	2	-	2	1	1	2	-	2	3	1	1	-	2
England	13	26	42	29	3	5	9	5	7	7	2	4	5	6	7	9
France	5	16	33	23	1	1	5	2	4	-	2	6	6	2	7	3
Germany	6	17	23	20	1	2	8	4	7	6	7	12	9	12	14	6
Greece	3	10	15	20	4	5	6	3	4	8	8	11	7	13	9	12
Italy	3	5	5	15	2	4	2	6	9	8	8	5	8	10	9	8
East Asia	59	137	304	320	50	53	52	63	74	83	104	114	128	147	235	300
Taiwan	-	-	68	168	34	32	31	34	34	30	35	28	31	30	54	43
China, Peoples Rep of	-	-	-	-	-	-	-	2	7	18	30	31	44	67	96	168
China, unspecified	31	82	124	28	-	-	-	-	1	1	-	3	-	2	17	17
Hong Kong	-	7	29	44	4	7	9	5	8	10	6	9	9	6	8	12
Japan	15	14	26	26	5	4	2	9	7	6	9	5	7	9	11	10
Korea	11	23	32	33	5	10	5	8	11	14	18	29	31	28	43	47
Thailand	1	4	3	2	-	-	1	2	3	2	2	4	4	1	2	1
West Asia	106	173	268	213	40	48	54	62	68	52	53	66	45	55	63	63
India	72	114	175	94	14	24	19	23	32	14	16	27	12	17	15	29
Iran	2	12	16	29	10	9	20	10	15	10	9	5	4	5	13	12
Iraq	8	7	3	3	-	-	-	-	-	3	1	2	2	2	-	1
Israel	14	23	30	36	4	7	4	9	5	4	9	7	1	4	9	6
Lebanon	-	2	7	14	-	-	-	1	2	2	3	3	3	2	1	2
Turkey	-	1	17	13	1	3	2	4	5	5	4	2	3	2	4	-
Pakistan	5	6	5	2	3	-	2	2	-	1	1	3	1	2	1	-
Australasia	10	29	49	19	8	7	6	8	10	10	11	9	8	8	10	10
Australia	1	15	23	6	4	2	4	6	6	5	6	5	3	5	4	2
Indonesia, Republic of	2	4	2	1	-	1	1	-	-	-	-	-	3	-	1	1
New Zealand	3	8	15	8	3	4	1	-	2	1	3	2	1	1	3	3
Philippines	4	2	9	4	1	-	-	2	2	4	2	2	-	2	2	4
Africa	4	10	44	36	7	13	12	11	13	17	15	19	24	20	16	16
Egypt	1	4	10	8	4	3	2	5	6	3	1	6	8	4	3	2
Nigeria	-	-	4	11	-	2	3	2	2	2	2	1	1	2	2	3
Country unknown	65	78	81	164	40	32	22	18	19	31	25	30	33	33	13	7
COMPUTER & INFO SCI																
Total, foreign citizenship	-	-	-	79	56	60	71	99	106	113	170	175	218	236	326	400
Canada	-	-	-	2	2	3	3	5	4	2	4	3	6	8	8	12
Mexico & Central America	-	-	-	2	-	1	3	1	1	-	3	3	-	4	3	5
Mexico	-	-	-	2	-	1	3	-	1	-	2	3	-	3	1	4
Caribbean	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	2
South America	-	-	-	4	5	6	1	5	2	6	7	6	4	4	11	13
Argentina	-	-	-	-	1	-	-	-	-	1	-	1	-	1	5	1
Brazil	-	-	-	3	2	5	1	3	1	3	2	5	2	3	1	3
Chile	-	-	-	1	-	1	-	1	-	1	2	-	-	-	2	2
Colombia	-	-	-	-	1	-	-	1	-	-	-	-	2	-	-	-
Europe	-	-	-	16	15	10	6	17	15	12	24	19	30	20	28	63
Belgium	-	-	-	-	-	1	-	1	-	2	2	-	1	1	-	2
England	-	-	-	1	3	1	-	3	2	2	5	4	5	2	1	2
France	-	-	-	4	-	1	-	-	3	-	1	-	2	-	4	4
Germany	-	-	-	2	3	1	2	2	4	1	3	2	6	4	5	12
Greece	-	-	-	1	-	-	3	1	4	2	3	6	2	2	7	14
Italy	-	-	-	1	3	1	-	-	1	-	-	-	3	2	1	4
East Asia	-	-	-	12	11	10	22	23	35	42	51	61	96	90	160	188
Taiwan	-	-	-	8	6	9	15	16	17	18	29	27	49	34	70	66
China, Peoples Rep of	-	-	-	-	-	-	-	-	-	6	10	12	14	21	31	54
China, unspecified	-	-	-	-	-	-	1	-	-	-	-	-	-	-	6	4
Hong Kong	-	-	-	3	-	1	2	-	3	3	1	6	4	10	8	8
Japan	-	-	-	1	2	-	2	3	2	2	-	-	4	1	5	3
Korea	-	-	-	-	1	-	1	4	10	9	8	13	21	17	32	43
Thailand	-	-	-	-	1	-	-	-	1	3	1	2	1	6	2	6
West Asia	-	-	-	27	11	16	26	31	36	27	55	62	55	75	97	92
India	-	-	-	14	3	6	12	15	16	18	28	38	37	45	68	70
Iran	-	-	-	2	1	3	5	6	7	2	10	7	4	9	4	7
Iraq	-	-	-	-	-	-	-	-	-	1	-	1	-	-	1	-
Israel	-	-	-	7	4	7	5	7	7	5	7	5	5	9	8	5
Lebanon	-	-	-	-	-	-	-	1	1	-	-	2	-	4	1	2
Turkey	-	-	-	2	1	-	2	1	3	-	5	3	3	1	2	3
Pakistan	-	-	-	-	1	-	1	-	1	-	1	1	1	2	2	1
Australasia	-	-	-	1	2	3	3	2	3	2	3	4	3	4	2	8
Australia	-	-	-	1	1	2	1	1	2	-	2	2	3	-	-	2
Indonesia, Republic of	-	-	-	-	-	1	-	1	1	-	-	-	-	3	2	4
New Zealand	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	2
Philippines	-	-	-	-	-	-	1	-	-	2	1	1	-	-	-	-
Africa	-	-	-	4	2	2	1	5	6	9	13	5	7	9	9	12
Egypt	-	-	-	1	1	-	1	1	3	5	6	2	2	4	7	5
Nigeria	-	-	-	1	-	1	-	1	2	-	2	1	-	2	1	-
Country unknown	-	-	-	11	8	9	6	10	4	12	10	12	16	22	8	5

See footnotes at end of table.

Table 6. Non-U.S. citizens awarded science and engineering (S&E) doctorates, by major field and country of citizenship of recipients(1): 1980-91, and totals for 1960-64, 1965-69, 1970-74, and 1975-79--continued

Major field and country of citizenship	Year of doctorate															
	1960-1964	1965-1969	1970-1974	1975-1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
AGRIC & BIOL SCI																
Total, foreign citizenship	1,780	3,185	4,229	3,831	778	772	743	779	824	930	876	989	1,165	1,191	1,539	1,714
Canada	248	307	387	195	36	26	36	41	42	39	53	56	58	58	65	74
Mexico & Central America	51	100	88	115	24	32	33	36	30	52	39	28	48	54	61	68
Mexico	30	71	55	70	20	24	29	29	19	39	30	18	37	44	40	50
Caribbean	6	43	33	33	3	5	3	7	7	7	2	5	7	7	8	18
South America	45	141	328	386	96	95	73	77	83	79	86	96	96	92	98	114
Argentina	6	14	39	17	2	8	5	6	4	8	8	5	13	13	26	23
Brazil	5	16	60	162	47	48	28	34	44	27	33	36	32	30	23	34
Chile	12	29	58	67	10	6	12	8	10	11	12	14	14	16	9	17
Colombia	13	29	59	40	7	6	11	10	7	8	5	6	13	10	19	16
Europe	174	301	448	365	68	57	57	70	66	89	77	87	106	115	135	164
Belgium	3	12	21	7	-	-	1	4	2	2	5	3	5	2	8	9
England	60	116	172	127	19	20	20	17	23	31	21	25	29	26	23	26
France	1	5	16	16	-	3	1	2	3	4	5	3	5	12	5	13
Germany	16	20	33	22	6	4	4	10	4	12	11	8	10	12	17	27
Greece	22	40	37	54	12	8	6	7	7	7	9	8	15	10	17	15
Italy	7	4	10	11	3	1	1	4	3	5	8	7	4	4	7	10
East Asia	185	528	966	943	152	161	172	187	193	230	211	307	340	393	665	814
Taiwan	-	-	177	383	68	59	80	88	105	105	89	125	122	134	175	154
China, Peoples Rep of	-	-	-	-	-	-	-	2	3	18	18	38	77	112	217	398
China, unspecified	85	323	430	69	2	-	-	-	-	-	-	1	-	1	36	31
Hong Kong	-	9	48	103	22	27	18	21	18	19	8	15	8	5	10	14
Japan	42	43	50	47	7	7	8	7	10	12	12	11	12	13	22	17
Korea	26	87	102	100	14	20	25	35	26	36	39	65	82	97	144	150
Thailand	22	48	105	165	21	31	24	15	20	25	31	32	27	19	36	34
West Asia	505	899	1,056	660	141	132	141	154	167	161	168	177	189	189	262	238
India	361	551	592	307	45	40	34	39	55	56	52	64	65	77	108	107
Iran	13	61	80	96	36	31	46	32	36	20	21	15	20	14	37	27
Iraq	29	52	72	44	19	21	15	27	16	21	15	21	20	8	7	4
Israel	18	59	72	39	6	8	6	7	5	4	5	6	10	9	9	8
Lebanon	9	25	16	18	2	2	3	2	3	4	2	2	5	13	4	6
Turkey	8	7	28	35	7	4	3	6	2	4	7	6	6	4	10	4
Pakistan	37	103	114	42	10	6	8	7	4	14	7	12	12	22	33	37
Australasia	109	253	297	191	40	41	45	47	47	45	41	35	48	51	56	58
Australia	48	79	91	35	14	6	14	11	16	10	3	8	9	12	13	7
Indonesia, Republic of	5	27	39	53	4	18	11	18	9	11	15	10	9	15	15	16
New Zealand	15	25	34	27	6	3	4	6	4	8	1	6	7	6	4	3
Philippines	41	122	132	76	16	14	16	12	17	15	22	11	23	18	24	32
Africa	94	310	318	327	105	123	115	104	125	140	128	106	136	122	148	128
Egypt	44	208	94	36	19	14	21	16	21	22	18	23	38	30	40	28
Nigeria	-	-	35	92	38	46	33	27	20	30	22	27	30	18	16	19
Country unknown	363	303	308	616	113	100	68	56	64	88	71	92	137	110	41	38
AGRICULTURAL SCIENCES																
Total, foreign citizenship	589	1,060	1,521	1,506	331	360	283	343	349	398	368	337	416	401	496	480
Canada	81	91	118	38	8	5	8	14	9	12	13	13	11	12	16	10
Mexico & Central America	26	52	30	60	17	16	15	18	20	32	23	12	27	21	37	37
Mexico	17	43	17	40	15	10	13	15	15	25	17	8	19	18	24	23
Caribbean	5	20	16	15	1	2	-	3	4	4	1	2	3	4	3	9
South America	7	64	164	223	58	59	39	43	54	43	45	48	51	44	52	54
Argentina	-	3	11	7	-	4	3	3	2	6	3	3	7	6	16	14
Brazil	-	3	46	116	37	35	19	27	34	16	27	25	23	15	19	19
Chile	1	8	30	31	2	2	3	1	2	2	4	3	4	4	3	3
Colombia	4	16	29	23	6	2	6	2	3	6	-	3	7	7	7	8
Europe	54	102	127	105	19	15	10	20	19	20	19	16	25	27	27	32
Belgium	-	4	6	1	-	-	1	2	1	1	2	-	-	-	2	2
England	12	37	34	18	5	1	3	4	4	4	3	3	4	7	1	6
France	-	2	4	3	-	1	-	1	2	2	3	-	1	2	1	1
Germany	8	5	4	1	-	1	-	3	1	-	2	1	-	2	2	3
Greece	6	15	16	23	4	4	1	3	2	2	-	3	4	1	7	3
Italy	1	-	2	1	2	1	-	-	1	2	2	1	1	-	-	-
East Asia	37	84	227	317	47	62	62	58	57	68	66	77	85	100	151	166
Taiwan	-	-	38	103	14	19	26	25	33	25	28	33	27	33	39	41
China, Peoples Rep of	-	-	-	-	-	-	-	1	-	2	2	2	14	20	28	61
China, unspecified	20	40	84	11	-	-	-	-	-	-	-	-	-	-	9	2
Hong Kong	-	-	2	4	4	-	2	-	2	1	-	1	1	-	1	-
Japan	6	5	10	14	2	3	2	-	-	4	4	2	3	3	2	2
Korea	4	18	33	48	5	10	9	12	10	12	11	21	25	32	41	45
Thailand	7	14	43	91	15	21	12	7	8	14	15	8	10	8	21	10
West Asia	178	307	454	288	65	64	50	79	61	73	75	59	70	64	89	77
India	125	191	246	115	9	12	7	13	14	13	12	6	11	8	19	16
Iran	6	24	32	49	25	23	21	17	15	10	6	5	9	2	12	8
Iraq	11	27	34	32	15	12	5	18	9	14	11	12	14	8	4	4
Israel	4	12	19	10	1	1	1	3	1	1	4	1	1	3	1	3
Lebanon	2	5	8	7	1	-	2	1	1	2	-	1	5	5	1	4
Turkey	4	3	16	16	1	1	1	2	2	3	2	2	4	1	5	1
Pakistan	11	29	49	18	4	3	4	6	-	10	5	7	5	17	25	22
Australasia	41	120	144	112	23	26	22	29	27	24	27	19	26	28	33	20
Australia	20	39	39	18	5	4	3	2	7	6	1	1	5	3	4	2
Indonesia, Republic of	2	10	18	34	3	12	8	14	6	7	12	8	8	14	12	5
New Zealand	3	12	16	12	2	1	4	5	2	5	1	1	3	2	2	1
Philippines	16	59	71	48	13	9	7	8	12	5	13	9	10	9	15	12
Africa	31	134	141	188	61	80	57	60	70	89	71	57	72	67	79	63
Egypt	10	88	40	16	13	8	6	5	5	7	7	9	23	18	15	11
Nigeria	-	-	17	52	23	27	15	18	10	16	10	14	12	8	8	9
Country unknown	129	86	100	160	32	31	20	19	28	33	28	34	46	34	9	12

See footnotes at end of table.

Table 6. Non-U.S. citizens awarded science and engineering (S&E) doctorates, by major field and country of citizenship of recipients(1): 1980-91, and totals for 1960-64, 1965-69, 1970-74, and 1975-79--continued

Major field and country of citizenship	Year of doctorate															
	1960-1964	1965-1969	1970-1974	1975-1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
BIOLOGICAL SCIENCES																
Total, foreign citizenship	1,191	2,125	2,708	2,325	447	412	460	436	475	532	508	652	749	790	1,043	1,234
Canada	167	216	269	157	28	21	28	27	33	27	40	43	47	46	49	64
Mexico & Central America	25	48	58	55	7	16	18	18	10	20	16	16	21	33	24	31
Mexico	13	28	38	30	5	14	16	14	4	14	13	10	18	26	16	27
Caribbean	1	23	17	18	2	3	3	4	3	3	1	3	4	3	5	9
South America	38	77	164	163	38	36	34	34	29	36	41	48	45	48	46	60
Argentina	6	11	28	10	2	4	2	3	2	2	5	2	6	7	10	9
Brazil	5	13	14	46	10	13	9	7	10	11	6	11	9	15	4	15
Chile	11	21	28	36	8	4	9	7	8	9	8	11	10	12	6	14
Colombia	9	13	30	17	1	4	5	8	4	2	5	3	6	3	12	8
Europe	120	199	321	260	49	42	47	50	47	69	58	71	81	88	108	132
Belgium	3	8	15	6	-	-	-	2	1	1	3	3	5	2	6	7
England	48	79	138	109	14	19	17	13	19	27	18	22	25	19	22	20
France	1	3	12	13	-	2	1	1	1	2	2	3	4	10	4	12
Germany	8	15	29	21	6	3	4	7	3	12	9	7	10	10	15	24
Greece	16	25	21	31	8	4	5	4	5	5	9	5	11	9	10	12
Italy	6	4	8	10	1	-	1	4	2	3	6	6	3	4	7	10
East Asia	148	444	739	626	105	99	110	129	136	162	145	230	255	293	514	648
Taiwan	-	-	139	280	54	40	54	63	72	80	61	92	95	101	136	113
China, Peoples Rep of	-	-	-	-	-	-	-	1	3	16	16	36	63	92	189	337
China, unspecified	65	283	346	58	2	-	-	-	-	-	-	1	-	1	27	29
Hong Kong	-	9	46	99	18	27	16	21	16	18	8	14	7	5	9	14
Japan	36	38	40	33	5	4	6	7	10	8	8	9	9	10	20	15
Korea	22	69	69	52	9	10	16	23	16	24	28	44	57	65	103	105
Thailand	15	34	62	74	6	10	12	8	12	11	16	24	17	11	15	24
West Asia	327	592	602	372	76	68	91	75	106	88	93	118	119	125	173	161
India	236	360	346	192	36	28	27	26	41	43	40	58	54	69	89	91
Iran	7	37	48	47	11	8	25	15	21	10	15	10	11	12	25	19
Iraq	18	25	38	12	4	9	10	9	7	7	4	9	6	-	3	-
Israel	14	47	53	29	5	7	5	4	4	3	1	5	9	6	8	5
Lebanon	7	20	8	11	1	2	1	1	2	2	2	1	-	8	3	2
Turkey	4	4	12	19	6	3	2	4	-	1	5	4	2	3	5	3
Pakistan	26	74	65	24	6	3	4	1	4	4	2	5	7	5	8	15
Australasia	68	133	153	79	17	15	23	18	20	21	14	16	22	23	23	38
Australia	28	40	52	17	9	2	11	9	9	4	2	7	4	9	9	5
Indonesia, Republic of	3	17	21	19	1	6	3	4	3	4	3	2	1	1	3	11
New Zealand	12	13	18	15	4	2	-	1	2	3	-	5	4	4	2	2
Philippines	25	63	61	28	3	5	9	4	5	10	9	2	13	9	9	20
Africa	63	176	177	139	44	43	58	44	55	51	57	49	64	55	69	65
Egypt	34	120	54	20	6	6	15	11	16	15	11	14	15	12	25	17
Nigeria	-	-	18	40	15	19	18	9	10	14	12	13	18	10	8	10
Country unknown	234	217	208	456	81	69	48	37	36	55	43	58	91	76	32	26
SOCIAL SCIENCES																
Total, foreign citizenship	976	1,859	3,397	3,584	673	734	761	738	833	854	892	893	914	1,037	1,105	1,223
Canada	101	227	421	319	35	48	41	39	44	30	33	32	41	50	45	47
Mexico & Central America	6	22	42	54	13	19	15	14	19	13	24	19	15	31	20	27
Mexico	3	7	27	38	8	10	9	7	16	11	20	14	7	20	12	18
Caribbean	6	32	44	41	12	9	7	4	14	9	9	6	10	7	12	13
South America	14	83	191	258	53	59	49	33	47	38	63	44	48	51	61	67
Argentina	4	25	56	39	2	8	6	7	6	4	10	9	5	6	10	12
Brazil	3	17	48	104	29	28	16	16	20	16	22	9	13	17	21	16
Chile	3	15	25	32	5	7	4	2	9	5	11	8	10	8	15	11
Colombia	1	9	20	31	3	3	6	3	3	2	7	4	11	6	3	8
Europe	120	257	564	517	76	86	78	80	105	86	90	109	117	122	130	180
Belgium	5	13	28	22	6	5	2	-	4	3	2	-	4	3	5	11
England	46	99	210	170	21	24	20	23	21	18	15	21	28	22	24	32
France	5	11	38	52	5	7	14	7	10	4	4	9	10	5	9	8
Germany	14	28	80	49	4	9	4	10	10	9	6	14	8	16	21	22
Greece	15	20	45	43	9	16	9	6	11	11	13	15	11	16	13	26
Italy	4	18	20	22	2	4	5	2	8	11	10	9	21	12	12	23
East Asia	153	292	564	641	124	118	161	152	183	208	213	229	285	337	433	485
Taiwan	-	-	46	106	20	17	26	36	37	56	44	50	61	64	69	93
China, Peoples Rep of	-	-	-	-	-	-	-	-	1	2	3	9	16	23	46	66
China, unspecified	40	87	106	20	-	-	-	-	1	-	-	-	-	-	7	4
Hong Kong	-	2	10	28	8	10	10	3	5	9	4	10	10	13	14	20
Japan	28	55	115	127	20	23	31	24	26	31	30	33	36	39	61	43
Korea	53	104	185	167	43	30	46	50	59	70	86	94	113	170	194	225
Thailand	21	24	61	121	21	25	32	28	33	27	26	25	29	19	26	19
West Asia	207	472	793	696	137	161	165	182	203	194	199	185	170	185	204	214
India	99	212	283	212	30	31	29	38	27	44	40	56	42	39	61	75
Iran	14	29	72	112	26	38	35	53	59	49	44	29	34	26	28	17
Iraq	14	28	23	13	2	-	4	2	2	9	1	5	3	3	3	8
Israel	22	51	128	99	19	21	24	23	20	12	14	10	9	10	15	15
Lebanon	12	22	25	26	7	5	5	4	4	4	6	5	7	6	1	3
Turkey	2	14	78	71	8	8	5	5	11	9	12	13	13	10	14	11
Pakistan	29	65	69	35	8	7	9	9	15	9	16	14	8	13	9	13
Australasia	64	93	181	183	42	40	45	57	33	41	45	45	36	37	48	55
Australia	20	25	73	71	15	14	13	13	7	10	11	13	11	6	20	8
Indonesia, Republic of	10	26	13	33	10	12	13	17	12	12	14	19	13	16	16	20
New Zealand	9	10	28	30	8	3	2	6	1	3	3	3	1	8	2	8
Philippines	25	32	66	49	9	11	17	21	13	15	17	10	11	6	10	19
Africa	58	157	350	393	78	100	111	124	116	143	126	114	101	107	122	108
Egypt	37	81	78	24	7	13	11	13	10	13	17	12	13	13	14	12
Nigeria	-	-	44	134	18	37	31	34	25	42	29	35	27	20	32	30
Country unknown	247	224	247	482	93	94	89	53	69	92	90	110	91	110	30	27

See footnotes at end of table.

Table 6. Non-U.S. citizens awarded science and engineering (S&E) doctorates, by major field and country of citizenship of recipients(1): 1980-91, and totals for 1960-64, 1965-69, 1970-74, and 1975-79--continued

Major field and country of citizenship	Year of doctorate 1960-1964	1965-1969	1970-1974	1975-1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
PSYCHOLOGY																
Total, foreign citizenship	231	328	610	636	121	127	112	143	139	140	146	144	145	160	190	181
Canada	63	94	203	156	22	29	15	24	29	21	28	20	24	24	36	30
Mexico & Central America	2	3	9	12	3	5	1	10	8	4	6	7	5	6	5	7
Mexico	1	2	7	7	3	5	1	6	4	3	3	4	3	4	1	7
Caribbean	-	4	5	15	1	2	3	-	2	3	6	1	2	3	5	5
South America	3	15	24	36	7	9	6	11	10	8	9	9	4	10	12	11
Argentina	2	3	8	3	-	-	-	2	-	-	4	-	1	-	1	2
Brazil	-	6	4	10	2	2	2	2	2	2	1	4	-	6	2	2
Chile	-	3	6	4	-	2	-	2	1	-	2	1	-	1	2	1
Colombia	-	2	3	5	3	2	-	1	2	2	-	2	2	1	2	3
Europe	31	50	100	90	22	19	17	27	22	30	29	32	33	34	42	38
Belgium	-	-	1	2	-	3	1	1	-	-	1	-	1	1	1	1
England	14	18	37	43	6	8	5	8	8	11	5	5	9	5	9	9
France	-	1	3	4	1	-	-	-	2	-	-	1	-	2	2	2
Germany	5	10	23	12	3	2	4	7	3	7	7	6	10	9	10	5
Greece	3	2	4	3	3	1	1	4	1	1	-	3	2	4	5	2
Italy	1	2	5	1	2	-	1	-	1	-	2	4	2	3	3	3
East Asia	17	24	46	44	10	6	7	25	17	17	19	15	27	34	40	45
Taiwan	-	-	8	10	4	4	4	9	4	7	10	5	6	12	9	8
China, Peoples Rep of	-	-	-	-	-	-	-	-	-	-	-	1	1	-	7	10
China, unspecified	4	9	23	2	-	-	-	-	-	-	-	-	-	-	1	1
Hong Kong	-	1	1	9	2	1	-	2	5	2	2	-	2	4	1	3
Japan	8	9	3	6	2	-	-	9	3	4	3	2	6	8	11	4
Korea	2	2	5	13	1	1	2	3	3	1	3	3	6	8	10	15
Thailand	1	1	4	3	1	-	-	1	2	-	1	2	2	1	-	1
West Asia	39	63	129	109	27	25	25	26	24	26	18	26	13	19	32	30
India	18	17	33	11	2	3	3	5	4	2	4	8	1	5	14	11
Iran	3	4	16	22	14	8	9	6	9	8	3	2	1	2	6	3
Iraq	1	2	-	-	-	1	-	1	-	-	-	1	-	-	-	-
Israel	6	30	55	51	5	10	10	11	10	11	9	6	9	8	7	13
Lebanon	-	1	3	3	1	-	-	-	-	-	-	-	1	-	-	-
Turkey	3	5	11	13	3	1	2	2	1	1	1	5	-	1	5	1
Pakistan	5	4	5	4	1	1	1	-	-	-	1	1	-	1	-	-
Australasia	10	17	29	41	1	6	3	6	13	4	4	2	7	8	6	6
Australia	5	8	14	18	-	2	1	3	7	3	2	1	6	6	3	3
Indonesia, Republic of	-	-	2	1	-	-	-	1	1	-	1	-	-	1	-	2
New Zealand	2	3	2	4	1	-	-	2	3	-	1	-	1	1	2	-
Philippines	3	6	11	18	-	4	2	-	2	1	-	-	-	-	1	1
Africa	9	13	26	23	6	2	13	4	4	5	4	9	6	3	9	5
Egypt	5	8	2	2	1	-	2	2	-	-	-	2	-	-	1	-
Nigeria	-	-	6	10	2	-	4	1	3	2	1	2	-	2	1	-
Country unknown	57	45	39	110	22	24	22	10	10	22	23	23	24	19	3	4
TOTAL, ENGINEERING(2)																
Total, foreign citizenship	1,326	3,155	5,524	5,783	1,150	1,243	1,326	1,489	1,543	1,734	1,715	1,887	2,087	2,306	2,660	2,854
Canada	97	240	191	87	20	17	18	23	22	22	18	29	28	38	40	51
Mexico & Central America	9	36	53	86	17	24	17	34	22	27	25	27	33	33	36	26
Mexico	7	26	47	74	13	21	13	29	19	24	20	21	27	28	25	21
Caribbean	3	19	21	14	2	-	3	9	5	7	6	6	2	5	7	3
South America	24	91	206	278	52	74	65	76	62	53	63	79	69	73	84	81
Argentina	-	8	16	21	10	6	5	8	10	11	10	9	6	6	12	12
Brazil	10	30	81	115	24	36	29	26	27	15	17	38	25	30	31	32
Chile	4	17	31	30	3	10	7	11	2	6	8	10	9	9	11	8
Colombia	3	12	35	36	3	3	4	5	11	4	4	7	9	5	8	11
Europe	159	346	689	515	88	103	113	120	109	111	148	152	171	198	205	185
Belgium	7	20	43	29	4	5	7	7	6	9	4	6	6	5	12	9
England	35	79	113	63	19	16	16	10	12	6	12	9	11	14	14	10
France	16	35	96	64	6	8	12	14	17	11	13	16	22	18	27	19
Germany	11	37	74	35	5	8	6	3	2	7	10	7	11	17	15	7
Greece	19	48	98	109	22	28	23	32	35	30	49	61	58	70	57	62
Italy	7	13	29	10	2	2	5	7	10	7	8	10	7	15	14	12
East Asia	310	958	1,676	1,571	304	362	422	481	582	666	682	803	889	988	1,264	1,543
Taiwan	-	-	307	748	172	218	257	277	322	387	351	398	400	427	474	573
China, Peoples Rep of	-	-	-	-	1	-	-	5	27	48	55	84	133	156	289	415
China, unspecified	221	729	808	115	-	1	2	-	-	-	2	3	1	8	45	37
Hong Kong	-	12	46	142	29	29	32	30	30	28	27	22	33	38	30	28
Japan	39	72	200	140	27	31	31	31	38	25	28	15	24	19	17	28
Korea	36	114	230	250	41	50	63	104	115	133	175	238	257	308	359	412
Thailand	8	22	40	140	20	23	25	27	36	25	26	20	24	16	21	18
West Asia	340	871	1,861	1,860	357	372	412	491	464	514	470	477	532	578	737	725
India	203	529	1,249	1,040	184	176	160	178	194	212	204	204	255	252	313	338
Iran	26	60	170	258	79	74	99	138	119	116	100	88	81	110	139	114
Iraq	10	31	41	24	6	4	4	7	6	6	4	10	8	9	14	8
Israel	51	90	102	137	21	33	25	45	22	22	24	19	23	19	19	26
Lebanon	2	20	31	33	6	8	8	13	15	11	11	27	18	25	35	37
Turkey	23	73	155	194	31	30	43	36	41	56	49	43	42	52	58	61
Pakistan	9	41	50	47	8	8	13	13	10	18	23	17	20	15	26	32
Australasia	30	77	116	68	14	11	21	23	29	28	21	24	24	26	25	40
Australia	12	26	49	20	4	4	4	8	5	4	6	5	2	2	3	7
Indonesia, Republic of	7	10	16	18	4	4	7	9	11	15	9	13	11	12	14	17
New Zealand	-	11	13	7	4	-	6	-	4	4	1	2	4	3	2	2
Philippines	11	30	38	23	2	3	4	6	9	5	5	4	7	9	6	14
Africa	50	149	305	310	96	104	98	125	139	137	118	107	138	140	187	149
Egypt	39	106	172	121	39	41	38	43	45	48	53	40	47	49	82	55
Nigeria	-	-	16	75	20	31	16	29	30	29	15	16	21	11	23	18
Country unknown	304	368	406	994	200	176	157	107	109	169	164	183	201	227	75	51

See footnotes at end of table.

Table 6. Non-U.S. citizens awarded science and engineering (S&E) doctorates, by major field and country of citizenship of recipients(1): 1980-91, and totals for 1960-64, 1965-69, 1970-74, and 1975-79--continued

Major field and country of citizenship	Year of doctorate															
	1960-1964	1965-1969	1970-1974	1975-1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
CHEMICAL ENGINEERING																
Total, foreign citizenship	216	386	725	741	153	155	151	176	178	211	226	230	252	245	240	282
Canada	19	27	20	8	3	3	2	3	1	2	1	1	2	3	6	6
Mexico & Central America	-	3	8	20	2	3	1	7	2	5	4	3	4	8	4	5
Mexico	-	1	7	16	2	2	1	7	1	5	3	2	4	8	3	5
Caribbean	-	6	3	1	-	-	-	-	-	1	1	1	-	-	-	-
South America	8	10	30	35	5	8	5	14	12	8	3	11	10	10	9	8
Argentina	-	1	3	8	3	2	1	5	5	4	1	4	4	1	4	5
Brazil	1	5	8	6	-	1	1	1	1	-	-	2	1	4	2	-
Chile	2	1	2	5	-	2	1	4	-	1	1	4	2	1	2	2
Colombia	3	2	9	7	-	1	-	1	2	2	-	-	1	1	1	-
Europe	19	31	54	59	12	11	11	6	14	12	23	29	17	29	37	32
Belgium	-	-	-	1	-	-	-	-	-	-	-	-	-	1	2	2
England	10	10	9	10	4	1	-	-	1	-	3	5	3	3	4	4
France	1	3	8	7	-	-	1	-	2	1	1	3	-	2	2	7
Germany	1	1	3	1	1	1	-	-	-	-	-	1	-	1	2	1
Greece	1	9	13	18	3	3	7	5	7	7	15	12	11	19	22	14
Italy	1	-	-	-	1	-	-	1	1	1	-	2	-	-	1	2
East Asia	57	146	263	219	54	48	54	61	70	84	83	108	120	100	96	132
Taiwan	-	-	42	129	36	28	36	39	49	55	56	72	75	55	41	42
China, Peoples Rep of	-	-	-	-	-	-	-	-	-	3	2	1	5	14	18	26
China, unspecified	39	99	116	15	-	-	-	-	-	-	-	-	-	-	4	3
Hong Kong	-	-	6	14	7	5	5	4	5	4	4	4	4	5	3	2
Japan	3	7	22	11	1	3	2	2	1	-	1	3	-	-	1	3
Korea	15	39	66	40	7	8	9	11	14	16	17	22	32	24	23	50
Thailand	-	1	2	8	2	2	1	5	1	5	1	2	2	1	2	3
West Asia	54	92	234	235	46	51	41	67	53	78	78	50	68	65	70	79
India	34	59	171	145	31	28	23	37	36	50	60	40	52	41	46	59
Iran	7	7	20	20	4	9	6	10	6	2	2	2	4	7	10	10
Iraq	2	1	3	-	-	-	-	-	1	-	1	-	1	1	-	1
Israel	6	17	10	14	2	3	-	1	-	3	1	1	1	-	2	-
Lebanon	-	-	-	-	1	-	1	1	-	3	-	1	-	1	-	-
Turkey	2	4	23	38	3	6	6	6	4	8	6	3	3	3	3	3
Pakistan	1	3	2	4	2	-	1	1	1	1	1	-	1	-	-	1
Australasia	4	10	21	6	1	1	1	1	2	1	2	2	3	4	4	4
Australia	1	3	7	1	-	-	-	1	-	-	-	-	-	-	1	2
Indonesia, Republic of	1	1	3	2	-	-	1	-	1	-	1	1	-	2	2	1
New Zealand	-	-	-	-	1	-	-	-	-	-	-	-	1	1	-	-
Philippines	2	6	11	3	-	1	-	-	1	1	1	1	2	1	1	1
Africa	2	13	35	21	8	3	9	8	11	5	7	4	12	10	7	11
Egypt	2	10	12	6	-	1	-	1	-	-	2	1	2	2	1	1
Nigeria	-	-	2	2	4	1	4	3	6	-	1	1	1	2	4	6
Country unknown	53	48	57	137	22	27	27	9	13	15	24	21	16	16	7	5
CIVIL ENGINEERING																
Total, foreign citizenship	229	538	840	742	136	169	185	217	207	230	234	256	294	306	321	338
Canada	12	51	41	12	2	-	2	4	3	3	3	2	7	5	7	6
Mexico & Central America	4	15	7	10	4	4	2	3	3	6	6	5	8	4	-	4
Mexico	3	10	5	7	3	3	1	2	1	4	2	2	4	3	-	3
Caribbean	1	3	3	4	1	-	1	3	1	-	2	3	-	-	2	-
South America	4	22	38	47	4	11	11	9	8	4	11	13	18	13	17	12
Argentina	-	4	2	2	-	-	-	-	1	-	1	-	2	1	2	-
Brazil	2	1	4	12	1	5	5	4	4	-	1	7	5	3	4	4
Chile	-	4	12	6	1	1	1	-	-	1	1	1	1	3	2	1
Colombia	-	4	12	7	-	-	1	-	2	1	3	3	3	2	4	3
Europe	26	37	103	65	9	21	20	23	13	16	25	23	26	31	19	18
Belgium	-	-	3	1	-	1	-	1	-	-	2	1	-	-	1	-
England	2	10	17	7	2	1	2	2	1	1	2	2	3	1	-	1
France	2	3	9	6	1	4	2	2	2	-	-	4	2	2	5	-
Germany	3	3	15	3	-	1	2	-	-	-	-	-	-	-	3	-
Greece	3	3	11	18	2	8	5	4	4	5	10	9	11	12	3	8
Italy	-	3	1	1	-	-	-	1	1	3	-	-	-	4	-	1
East Asia	39	91	206	182	24	38	54	49	69	76	84	81	107	93	108	125
Taiwan	-	-	35	72	8	19	34	33	38	49	53	48	58	48	43	55
China, Peoples Rep of	-	-	-	-	-	-	-	-	2	2	3	4	12	5	22	30
China, unspecified	28	75	99	11	-	-	-	-	-	-	-	-	1	-	3	3
Hong Kong	-	2	6	6	1	1	5	3	3	3	3	-	1	4	4	1
Japan	4	4	27	22	4	4	5	1	3	5	6	5	3	7	2	3
Korea	2	6	11	9	3	6	2	4	9	8	11	11	22	22	24	30
Thailand	4	3	18	61	5	7	7	6	12	5	3	5	6	3	4	2
West Asia	71	202	318	223	42	53	46	77	53	66	50	73	82	86	108	112
India	41	110	157	76	7	10	6	12	9	14	6	11	22	15	19	23
Iran	5	22	31	32	16	9	17	31	16	24	18	18	21	20	23	20
Iraq	4	13	22	10	3	1	1	1	4	4	1	4	1	2	5	2
Israel	7	6	10	11	-	4	1	2	2	1	1	-	1	3	1	1
Lebanon	1	7	14	10	1	3	2	3	3	1	3	10	3	8	10	13
Turkey	6	16	36	33	6	5	1	5	3	2	4	1	3	-	2	2
Pakistan	1	16	19	9	1	3	1	2	-	3	1	-	3	2	4	6
Australasia	10	16	21	16	1	-	6	8	8	8	7	9	5	6	3	10
Australia	7	5	13	3	-	-	-	-	2	1	2	2	1	-	-	-
Indonesia, Republic of	1	-	1	4	-	-	1	5	4	4	3	4	2	3	3	7
New Zealand	-	4	3	6	1	-	4	-	1	2	1	1	1	2	-	1
Philippines	2	7	4	3	-	-	1	3	1	1	1	2	1	1	-	2
Africa	17	45	43	58	26	19	29	26	30	26	23	23	22	34	43	42
Egypt	14	30	17	22	10	9	12	8	12	9	8	4	9	17	23	18
Nigeria	-	-	1	10	2	3	3	5	4	6	4	6	2	2	3	3
Country unknown	45	56	60	125	23	23	14	15	19	25	23	24	19	34	14	9

See footnotes at end of table.

Table 6. Non-U.S. citizens awarded science and engineering (S&E) doctorates, by major field and country of citizenship of recipients(1): 1980-91, and totals for 1960-64, 1965-69, 1970-74, and 1975-79--continued

Major field and country of citizenship	Year of doctorate															
	1960-1964	1965-1969	1970-1974	1975-1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
ELECTRICAL ENGINEERING																
Total, foreign citizenship	323	732	1,118	1,124	191	207	269	270	307	339	345	324	444	507	606	667
Canada	29	71	27	15	1	5	2	-	2	4	5	6	5	11	3	10
Mexico & Central America	1	6	6	17	1	5	2	4	4	6	1	2	6	3	4	6
Mexico	1	5	6	16	-	4	2	3	4	6	1	1	6	3	3	4
Caribbean	-	1	4	3	-	-	-	-	-	2	1	1	-	1	3	2
South America	7	21	41	53	7	4	9	6	12	5	7	9	6	14	16	14
Argentina	-	1	3	3	1	-	1	1	2	2	1	-	-	2	-	2
Brazil	6	10	25	26	4	2	5	1	5	-	1	5	1	5	6	6
Chile	1	4	3	3	-	-	-	-	1	-	3	-	1	2	1	1
Colombia	-	3	4	4	1	-	-	1	1	-	-	1	-	2	1	2
Europe	47	97	163	101	18	20	24	21	22	23	31	30	36	53	47	50
Belgium	3	8	15	7	3	1	3	1	1	3	1	3	2	1	5	5
England	7	16	22	11	2	3	3	-	3	1	1	1	1	5	5	1
France	5	13	21	9	1	1	3	2	2	1	2	2	7	6	4	5
Germany	4	6	19	9	-	3	-	-	-	-	1	2	4	5	1	4
Greece	7	15	30	23	6	5	6	4	4	6	10	10	10	14	12	14
Italy	2	6	7	2	1	1	-	1	5	3	4	2	3	3	4	2
East Asia	78	234	357	363	59	74	89	90	121	115	130	131	199	215	308	377
Taiwan	-	-	69	166	36	47	59	57	68	71	66	55	81	90	116	136
China, Peoples Rep of	-	-	-	-	1	-	-	2	6	13	13	23	37	44	83	112
China, unspecified	58	176	174	31	-	-	-	-	-	-	2	-	-	2	12	7
Hong Kong	-	5	16	54	5	10	10	6	10	8	4	8	15	15	9	13
Japan	11	20	39	21	4	3	6	1	8	3	5	-	4	6	3	4
Korea	5	22	41	53	6	8	9	20	20	16	33	40	52	56	76	91
Thailand	1	9	11	25	2	4	4	4	5	1	4	1	6	-	3	3
West Asia	81	171	362	320	59	63	101	97	95	115	97	92	112	112	153	166
India	57	101	238	170	37	35	37	33	35	44	34	29	34	40	50	72
Iran	3	13	41	57	11	12	20	23	31	31	28	23	26	31	34	37
Iraq	-	5	5	5	-	-	-	1	-	-	-	1	4	-	2	-
Israel	12	21	23	34	4	10	12	14	6	6	3	4	8	2	4	5
Lebanon	-	5	9	7	-	1	2	4	3	1	4	7	9	9	12	10
Turkey	4	16	33	22	2	1	9	8	6	14	10	15	12	11	14	17
Pakistan	2	5	4	6	2	1	8	4	4	3	6	3	4	3	6	6
Australasia	5	14	17	15	-	-	1	4	3	5	5	3	7	7	6	7
Australia	1	8	9	5	-	-	1	1	1	2	2	2	-	1	1	4
Indonesia, Republic of	3	2	3	2	-	-	-	1	1	3	3	1	6	3	3	3
New Zealand	-	2	3	-	-	-	-	-	-	-	-	-	1	-	1	-
Philippines	1	2	2	8	-	-	-	2	1	-	-	-	-	3	1	-
Africa	7	17	57	49	15	12	10	25	30	29	31	15	26	31	42	25
Egypt	7	14	34	20	8	6	3	15	12	14	14	5	8	7	15	8
Nigeria	-	-	2	13	1	3	2	2	2	2	2	2	1	2	5	2
Country unknown	68	100	84	188	31	24	31	23	18	35	37	35	47	60	24	10
MATERIALS SCIENCE																
Total, foreign citizenship	-	3	164	276	71	53	67	74	91	92	94	118	118	115	166	189
Canada	-	1	2	5	-	-	1	2	-	2	1	3	1	1	3	2
Mexico & Central America	-	-	4	5	2	1	1	4	-	1	2	1	-	-	-	-
Mexico	-	-	4	4	2	1	-	3	-	1	2	1	-	-	-	-
Caribbean	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
South America	-	-	3	11	1	3	3	4	3	4	6	4	1	-	5	5
Argentina	-	-	-	2	1	1	-	-	-	1	1	-	-	-	2	1
Brazil	-	-	2	4	-	1	1	-	1	2	-	2	-	-	2	2
Chile	-	-	-	2	-	1	-	1	-	-	2	-	1	-	-	-
Colombia	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-
Europe	-	-	19	14	7	7	4	5	2	4	4	6	8	3	7	14
Belgium	-	-	3	2	-	-	-	-	1	-	-	-	-	-	1	1
England	-	-	3	2	2	3	1	2	-	1	-	-	1	-	-	1
France	-	-	4	1	3	1	1	1	1	-	2	2	4	1	1	3
Germany	-	-	-	4	-	-	-	-	-	1	-	-	1	-	1	-
Greece	-	-	2	2	-	1	-	1	-	-	-	2	-	1	1	2
Italy	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-
East Asia	-	2	61	92	25	17	27	36	53	44	52	69	58	77	91	123
Taiwan	-	-	13	46	19	11	18	25	28	22	24	27	26	26	34	42
China, Peoples Rep of	-	-	-	-	-	-	-	-	7	4	6	9	8	15	16	40
China, unspecified	-	1	18	6	-	-	-	-	-	-	-	1	-	-	5	2
Hong Kong	-	-	1	4	2	2	-	-	1	-	1	2	3	2	2	1
Japan	-	-	14	16	1	2	2	6	2	5	3	2	2	2	-	4
Korea	-	1	12	19	3	2	6	5	14	11	14	27	17	32	34	31
Thailand	-	-	-	1	-	-	-	-	-	2	2	1	-	-	-	2
West Asia	-	-	51	83	18	15	18	15	17	25	20	21	30	19	44	36
India	-	-	46	67	13	12	10	13	13	22	13	14	20	16	39	26
Iran	-	-	2	6	2	2	6	2	2	-	1	-	2	-	1	-
Iraq	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Israel	-	-	2	4	2	-	-	-	1	-	3	1	-	-	1	1
Lebanon	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Turkey	-	-	1	4	1	-	2	-	-	3	1	3	4	2	2	8
Pakistan	-	-	-	2	-	-	-	-	-	-	-	2	3	1	-	-
Australasia	-	-	3	1	1	-	1	1	-	-	-	1	-	-	1	1
Australia	-	-	2	-	-	-	-	1	-	-	-	-	-	-	-	-
Indonesia, Republic of	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
New Zealand	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Philippines	-	-	1	1	-	-	-	-	-	-	-	1	-	-	1	1
Africa	-	-	8	7	2	1	1	2	9	3	3	5	8	4	12	6
Egypt	-	-	6	3	-	1	1	1	3	3	2	2	3	-	4	1
Nigeria	-	-	1	3	1	-	-	1	3	-	-	3	3	1	-	1
Country unknown	-	-	13	58	15	9	11	5	7	9	6	8	12	11	3	2

See footnotes at end of table.

Table 6. Non-U.S. citizens awarded science and engineering (S&E) doctorates, by major field and country of citizenship of recipients(1): 1980-91, and totals for 1960-64, 1965-69, 1970-74, and 1975-79--continued

Major field and country of citizenship	Year of doctorate															
	1960-1964	1965-1969	1970-1974	1975-1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
MECHANICAL ENGINEERING																
Total, foreign citizenship	256	630	960	874	189	188	225	220	244	297	289	370	404	424	532	516
Canada	10	42	31	14	2	1	2	1	1	3	2	6	2	7	4	10
Mexico & Central America	2	5	5	6	2	3	3	1	2	-	5	6	3	4	8	3
Mexico	1	4	5	6	2	3	1	-	2	-	5	5	2	3	3	2
Caribbean	-	3	5	2	-	-	-	2	2	-	-	-	1	-	-	-
South America	3	14	15	19	6	5	9	10	7	4	11	6	10	8	8	6
Argentina	-	1	2	1	2	-	1	-	2	1	3	2	-	-	-	-
Brazil	-	8	9	11	3	2	3	4	4	2	3	3	4	3	5	2
Chile	-	2	2	-	-	-	3	1	-	-	-	1	1	1	-	1
Colombia	-	-	1	1	-	-	1	1	-	-	-	-	2	-	1	1
Europe	24	55	89	61	12	9	20	16	14	17	25	27	33	29	23	21
Belgium	1	4	5	1	-	-	1	-	2	1	1	1	1	1	2	1
England	5	20	14	9	2	2	4	1	3	2	1	-	2	1	1	-
France	2	2	13	4	1	1	3	1	2	4	4	2	5	5	1	1
Germany	-	11	9	3	1	-	1	-	-	1	4	2	2	3	2	-
Greece	3	3	9	16	1	2	1	5	5	3	4	12	11	10	5	5
Italy	1	1	5	3	-	-	3	2	-	-	-	2	1	1	3	3
East Asia	77	236	351	234	47	62	67	80	99	129	115	168	188	190	291	339
Taiwan	-	-	69	114	23	32	40	40	56	76	54	85	87	78	118	141
China, Peoples Rep of	-	-	-	-	-	-	-	3	3	12	14	17	36	29	74	98
China, unspecified	64	210	192	24	-	-	-	-	-	-	-	-	-	3	8	5
Hong Kong	-	1	10	17	3	5	5	4	3	5	7	2	2	6	4	4
Japan	7	7	23	16	5	7	5	5	6	4	3	2	9	1	1	4
Korea	4	15	47	41	10	11	10	23	24	21	32	52	50	68	81	83
Thailand	-	2	1	15	4	4	5	3	5	5	4	8	3	3	-	1
West Asia	65	164	322	333	66	56	75	78	84	85	78	97	100	118	157	104
India	36	95	223	201	35	27	28	24	29	33	30	43	53	54	77	46
Iran	6	10	32	57	15	12	17	22	28	23	23	23	18	25	41	22
Iraq	2	8	6	1	-	1	1	2	-	-	1	1	1	1	2	1
Israel	10	13	15	11	3	6	3	8	1	3	3	4	3	5	1	7
Lebanon	-	5	4	2	-	2	1	3	4	4	3	5	2	2	8	5
Turkey	7	22	28	34	10	3	13	6	14	11	9	7	8	10	11	7
Pakistan	1	6	6	8	1	-	1	2	-	2	5	3	2	2	3	7
Australasia	1	11	14	4	1	4	1	2	5	4	3	1	2	5	2	3
Australia	1	5	5	1	-	2	-	1	-	-	2	-	1	1	-	-
Indonesia, Republic of	-	2	2	3	-	2	-	1	4	3	1	-	1	3	2	3
New Zealand	-	2	2	-	1	-	1	-	1	-	-	1	-	-	-	-
Philippines	-	2	5	-	-	-	-	-	-	1	-	-	-	1	-	-
Africa	9	25	51	56	18	21	18	13	17	25	27	18	18	20	26	20
Egypt	4	15	30	28	8	8	10	8	8	11	13	11	9	10	16	7
Nigeria	-	-	4	14	5	5	1	3	2	9	4	-	2	1	1	2
Country unknown	65	75	77	145	35	27	30	17	13	30	23	41	47	43	13	10
TOTAL, NON-S&E(3)																
Total, foreign citizenship	1,398	2,858	5,117	6,056	1,272	1,366	1,451	1,476	1,529	1,595	1,580	1,652	1,770	1,774	2,048	2,162
Canada	247	595	1,088	838	146	124	140	155	158	135	118	136	150	143	167	208
Mexico & Central America	5	27	37	75	14	14	26	24	27	31	31	22	24	25	39	41
Mexico	2	8	17	44	10	10	16	12	21	20	23	17	15	16	27	28
Caribbean	4	45	93	103	21	24	17	25	37	20	18	24	21	31	22	23
South America	19	66	194	315	80	81	86	90	70	87	92	71	65	67	85	94
Argentina	6	18	36	38	4	2	4	12	6	8	9	5	10	8	12	11
Brazil	5	16	26	104	33	41	41	31	30	32	31	27	23	23	31	28
Chile	2	8	27	43	13	7	11	8	10	7	12	10	3	6	6	13
Colombia	-	6	45	44	7	4	6	10	5	7	7	7	7	11	6	15
Europe	174	471	1,010	860	142	158	157	163	180	200	178	216	227	237	296	344
Belgium	3	11	29	22	5	6	4	3	3	9	4	10	12	6	13	7
England	76	189	354	260	39	44	57	50	47	59	45	62	59	61	66	68
France	8	37	130	111	16	21	16	27	26	18	16	21	25	19	29	39
Germany	28	86	184	142	24	18	15	22	27	32	32	35	31	37	47	61
Greece	12	29	36	38	9	11	12	8	6	12	8	7	12	9	12	17
Italy	3	16	32	39	4	5	9	10	4	10	10	13	14	21	25	30
East Asia	132	278	569	824	177	160	202	263	268	299	329	362	480	510	661	749
Taiwan	-	-	49	122	32	30	52	63	63	88	87	83	127	122	136	198
China, Peoples Rep of	-	-	-	-	1	2	2	2	1	2	6	13	19	37	73	114
China, unspecified	41	83	140	46	1	-	-	-	-	-	-	-	-	3	7	12
Hong Kong	1	4	20	48	16	15	14	22	14	13	17	24	15	23	21	30
Japan	34	62	71	77	23	15	18	22	36	26	31	20	39	40	39	37
Korea	26	75	139	186	27	36	45	61	59	69	95	133	170	182	287	266
Thailand	22	27	93	260	63	47	48	75	74	72	63	64	74	58	59	53
West Asia	257	554	933	1,012	220	288	286	301	334	320	328	332	330	303	402	337
India	125	247	385	322	49	66	54	70	82	83	110	99	127	143	172	164
Iran	14	23	78	176	68	86	71	61	60	65	45	36	30	23	33	28
Iraq	14	19	32	22	5	12	7	13	21	18	13	12	9	6	8	4
Israel	23	86	167	172	29	36	37	35	38	14	33	38	21	28	39	27
Lebanon	12	20	33	28	4	4	9	10	3	11	12	9	10	5	15	10
Turkey	14	20	47	61	12	9	12	7	15	10	17	11	10	10	15	7
Pakistan	32	93	70	41	9	6	5	6	10	11	8	10	14	9	9	9
Australasia	134	206	395	378	66	98	70	87	77	76	69	72	82	74	97	121
Australia	35	76	177	209	47	53	39	47	42	38	33	34	32	36	49	45
Indonesia, Republic of	9	11	28	23	8	13	10	18	10	13	17	19	34	20	24	37
New Zealand	12	20	52	49	5	6	9	6	9	5	5	7	10	5	8	13
Philippines	78	99	135	93	6	23	12	16	15	17	14	12	5	11	14	25
Africa	101	234	414	693	207	217	249	229	253	257	212	202	197	183	207	184
Egypt	82	122	106	67	44	35	43	40	37	32	26	33	30	19	33	24
Nigeria	-	-	50	297	70	92	104	102	114	107	97	67	73	59	66	43
Country unknown	325	382	384	958	199	202	218	139	125	170	205	215	194	201	72	61

See footnotes at end of table.

Table 6. Non-U.S. citizens awarded science and engineering (S&E) doctorates, by major field and country of citizenship of recipients(1): 1980-91, and totals for 1960-64, 1965-69, 1970-74, and 1975-79--continued

Major field and country of citizenship	Year of doctorate															
	1960-1964	1965-1969	1970-1974	1975-1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
TOTAL, ALL FIELDS																
Total, foreign citizenship	7,536	14,664	24,026	24,761	4,934	5,221	5,432	5,774	6,056	6,552	6,708	7,188	7,817	8,273	9,769	10,666
Canada	965	1,833	2,703	1,816	301	282	288	334	331	287	295	317	353	363	418	484
Mexico & Central America	90	216	289	423	85	111	115	150	132	151	153	136	148	179	195	210
Mexico	58	138	199	299	67	85	86	108	97	121	120	103	107	136	130	154
Caribbean	25	158	228	232	42	47	37	47	69	52	47	47	49	60	58	74
South America	155	499	1,214	1,576	348	373	326	359	346	341	392	382	360	364	424	466
Argentina	28	95	249	156	29	29	28	46	47	40	49	33	48	51	78	71
Brazil	34	120	283	585	156	176	134	132	138	115	127	139	117	123	129	142
Chile	33	89	183	236	39	41	39	43	41	48	56	55	48	53	56	65
Colombia	21	64	188	189	29	23	33	35	37	29	31	34	53	38	46	63
Europe	893	1,866	3,587	2,966	501	563	574	617	646	691	737	839	916	946	1,092	1,273
Belgium	23	71	157	100	16	26	19	18	20	28	24	26	33	21	44	50
England	309	639	1,092	801	126	144	147	137	147	162	121	156	174	157	165	193
France	41	124	363	303	32	46	56	60	74	46	50	69	78	70	93	104
Germany	104	248	471	311	51	53	51	65	66	80	94	109	109	139	169	175
Greece	100	199	298	340	72	75	72	74	84	80	111	130	130	146	137	175
Italy	30	71	135	117	19	22	32	40	39	55	58	59	77	77	88	111
East Asia	1,134	2,977	5,499	5,524	1,025	1,046	1,269	1,454	1,616	1,852	1,989	2,330	2,717	3,065	4,253	5,047
Taiwan	-	-	905	2,137	455	474	612	667	727	831	794	870	913	976	1,145	1,280
China, Peoples Rep of	-	-	-	-	3	2	5	15	61	139	204	303	497	647	1,090	1,710
China, unspecified	556	1,804	2,279	399	4	1	3	-	2	3	2	9	5	17	156	153
Hong Kong	4	67	260	532	108	115	106	120	101	107	90	111	96	116	115	145
Japan	225	342	584	512	92	92	106	125	138	123	139	103	142	145	186	157
Korea	222	511	866	889	158	171	217	297	325	392	493	680	790	932	1,257	1,333
Thailand	81	133	331	729	139	130	140	163	182	168	171	159	170	134	170	141
West Asia	1,801	3,656	5,892	5,359	1,125	1,214	1,301	1,442	1,514	1,508	1,534	1,554	1,555	1,609	2,040	1,911
India	1,122	2,104	3,252	2,467	420	445	411	453	519	541	579	602	647	680	877	883
Iran	90	218	502	773	273	280	318	339	347	298	258	218	202	221	290	239
Iraq	88	168	191	107	32	39	33	56	47	59	40	55	45	31	35	25
Israel	159	378	607	606	95	130	119	144	116	80	112	104	82	96	113	112
Lebanon	46	105	138	139	23	23	30	34	31	37	40	52	49	56	60	63
Turkey	57	143	387	435	77	58	80	75	87	94	101	97	91	88	120	101
Pakistan	132	339	347	200	51	32	48	44	47	57	67	69	66	70	85	99
Australasia	411	784	1,233	972	186	227	216	246	234	223	217	207	237	240	270	321
Australia	138	260	485	396	92	89	85	97	93	77	67	76	71	77	94	78
Indonesia, Republic of	44	95	122	137	28	52	44	65	47	55	57	61	76	72	77	99
New Zealand	49	108	164	139	29	20	28	24	25	24	22	21	27	32	24	34
Philippines	180	320	457	296	36	63	59	60	66	62	71	47	61	56	72	109
Africa	351	992	1,602	1,905	526	600	640	655	705	758	660	607	646	627	743	657
Egypt	234	612	512	286	118	114	126	133	127	139	126	131	145	128	192	133
Nigeria	-	-	163	651	158	221	202	208	208	224	176	156	160	117	148	120
Country unknown	1,711	1,683	1,779	3,988	795	758	666	470	463	689	684	769	836	820	276	223

NOTE: Totals for the regions of the world include other countries not shown separately.

(1) This table includes non-U.S. citizens on both permanent and temporary visas.

(2) Subtotal includes doctorate recipients whose engineering fields are not separately shown.

(3) Non-S&E doctorates in this table include those whose field of specialization is unknown.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

Table 7. Field-switching between baccalaureate and doctoral degrees, by major field: selected years

	Major field of doctorate																	
Major field of baccalaureate	Total S&E	Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(1)				Non-S&E (2)	Total all fields
		Sub-total	Phys &astr	Chem-istry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
Year of doctorate - 1970																		
Total, S&E	15,784	3,675	1,554	2,121	456	1,140	-	3,609	742	2,867	2,033	1,541	3,330	441	835	612	2,473	18,257
Physical sciences	4,288	3,252	1,289	1,963	72	77	-	609	24	585	46	27	205	11	51	18	243	4,531
Physics/astronomy	1,697	1,293	1,272	21	53	68	-	80	3	77	31	9	163	2	48	18	79	1,776
Chemistry	2,591	1,959	17	1,942	19	9	-	529	21	508	15	18	42	9	3	-	164	2,755
Earth/atmos/ocean	330	3	1	2	287	1	-	11	4	7	19	2	7	1	-	-	29	359
Mathematics	1,366	91	69	22	15	924	-	59	4	55	157	46	74	3	16	13	314	1,680
Computer/info sci	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agric & biol sci	3,080	41	-	41	26	5	-	2,824	697	2,127	137	37	10	-	-	1	412	3,492
Agricultural sci	974	15	-	15	8	1	-	836	591	245	106	3	5	-	-	-	91	1,065
Biological sci	2,106	26	-	26	18	4	-	1,988	106	1,882	31	34	5	-	-	1	321	2,427
Social sciences	1,654	1	-	1	8	7	-	14	3	11	1,532	86	6	-	1	1	811	2,465
Psychology	1,419	-	-	-	1	2	-	30	-	30	69	1,316	1	-	1	-	476	1,895
Total, engineering(1)	3,647	287	195	92	47	124	-	62	10	52	73	27	3,027	426	766	579	188	3,835
Chemical	603	88	8	80	1	8	-	15	4	11	6	5	480	409	3	9	20	623
Electrical	1,055	80	78	2	7	63	-	24	-	24	14	7	860	1	716	9	48	1,103
Mechanical	685	28	28	-	5	9	-	4	1	3	13	6	620	9	6	427	42	727
Total, non-S&E(2)	1,618	98	21	77	19	40	-	375	52	323	755	292	39	2	8	8	8,436	10,054
Unknown	642	120	80	40	23	45	-	181	10	171	139	57	77	2	14	15	545	1,187
Total, all fields	18,044	3,893	1,655	2,238	498	1,225	-	4,165	804	3,361	2,927	1,890	3,446	445	857	635	11,454	29,498
Year of doctorate - 1975																		
Total, S&E	16,122	2,878	1,235	1,643	589	1,043	-	3,887	843	3,044	2,634	2,230	2,861	352	588	472	3,091	19,213
Physical sciences	3,727	2,636	1,067	1,569	124	54	-	633	36	597	38	29	213	14	30	18	260	3,987
Physics/astronomy	1,478	1,068	1,053	15	69	47	-	80	4	76	23	14	177	-	30	17	99	1,577
Chemistry	2,249	1,568	14	1,554	55	7	-	553	32	521	15	15	36	14	-	1	161	2,410
Earth/atmos/ocean	344	3	3	-	307	-	-	14	4	10	8	1	11	-	-	-	29	373
Mathematics	1,319	66	60	6	22	883	-	54	7	47	136	54	104	3	13	7	382	1,701
Computer/info sci	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agric & biol sci	3,338	32	1	31	66	2	-	3,046	770	2,276	105	60	27	-	-	-	421	3,759
Agricultural sci	909	5	-	5	10	1	-	801	629	172	74	2	16	-	-	-	72	981
Biological sci	2,429	27	1	26	56	1	-	2,245	141	2,104	31	58	11	-	-	-	349	2,778
Social sciences	2,393	2	1	1	7	8	-	29	6	23	2,179	158	10	-	-	-	1,065	3,458
Psychology	2,040	2	1	1	-	4	-	46	2	44	92	1,892	4	-	-	-	685	2,725
Total, engineering(1)	2,961	137	102	35	63	92	-	65	18	47	76	36	2,492	335	545	447	249	3,210
Chemical	440	36	5	31	8	2	-	15	2	13	5	4	370	318	-	5	18	458
Electrical	838	43	43	-	11	45	-	13	2	11	16	14	696	-	517	5	66	904
Mechanical	565	11	11	-	12	15	-	11	3	8	9	6	501	6	5	331	54	619
Total, non-S&E(2)	1,773	71	10	61	16	46	-	312	46	266	854	440	34	5	4	3	10,537	12,310
Unknown	815	127	55	72	20	58	-	203	16	187	210	81	116	13	20	12	614	1,429
Total, all fields	18,710	3,076	1,300	1,776	625	1,147	-	4,402	905	3,497	3,698	2,751	3,011	370	612	487	14,242	32,952
Year of doctorate - 1980																		
Total, S&E	14,977	2,342	918	1,424	583	672	192	4,200	816	3,384	2,287	2,386	2,315	271	450	363	3,103	18,080
Physical sciences	3,254	2,149	810	1,339	137	21	24	618	44	574	21	27	257	27	38	15	218	3,472
Physics/astronomy	1,267	812	797	15	100	20	21	90	3	87	13	12	199	4	37	15	78	1,345
Chemistry	1,987	1,337	13	1,324	37	1	3	528	41	487	8	15	58	23	1	-	140	2,127
Earth/atmos/ocean	355	3	2	1	293	1	-	29	11	18	14	3	12	-	-	4	24	379
Mathematics	1,143	42	33	9	35	609	87	77	8	69	130	44	119	-	22	14	308	1,451
Computer/info sci	41	-	-	-	-	-	34	-	-	-	2	-	5	-	2	-	5	46
Agric & biol sci	3,566	51	3	48	68	6	-	3,282	710	2,572	68	55	36	2	-	-	449	4,015
Agricultural sci	692	5	-	5	8	1	-	619	500	119	41	2	16	1	-	-	55	747
Biological sci	2,874	46	3	43	60	5	-	2,663	210	2,453	27	53	20	1	-	-	394	3,268
Social sciences	2,161	3	3	-	10	14	4	47	20	27	1,898	173	12	-	-	-	1,080	3,241
Psychology	2,269	3	2	1	1	1	2	97	6	91	94	2,062	9	-	-	-	829	3,098
Total, engineering(1)	2,188	91	65	26	39	20	41	50	17	33	60	22	1,865	242	388	330	190	2,378
Chemical	323	29	4	25	2	2	-	10	4	6	2	1	277	231	-	7	14	337
Electrical	580	24	24	-	4	7	26	8	1	7	10	6	495	-	360	2	37	617
Mechanical	414	5	5	-	8	1	4	3	-	3	8	4	381	3	2	261	41	455
Total, non-S&E(2)	1,534	41	5	36	15	19	6	272	42	230	639	519	23	-	1	2	9,595	11,129
Unknown	1,012	138	60	78	30	53	20	243	54	189	194	193	141	14	27	19	799	1,811
Total, all fields	17,523	2,521	983	1,538	628	744	218	4,715	912	3,803	3,120	3,098	2,479	285	478	384	13,497	31,020

See footnotes at end of table.

Table 7. Field-switching between baccalaureate and doctoral degrees, by major field: selected years--continued

	Major field of doctorate																	
		Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(1)				Non-S&E (2)	Total all fields
Major field of baccalaureate	Total S&E	Sub-total	Phys &astr	Chem-istry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
Year of doctorate - 1985																		
Total, S&E	15,572	2,631	978	1,653	558	594	255	4,303	1,000	3,303	2,073	2,337	2,821	412	550	457	2,843	18,415
Physical sciences .	3,265	2,374	859	1,515	121	24	19	393	37	356	34	21	279	42	77	15	164	3,429
Physics/astronomy	1,255	860	844	16	84	19	17	49	3	46	22	10	194	4	74	13	57	1,312
Chemistry	2,010	1,514	15	1,499	37	5	2	344	34	310	12	11	85	38	3	2	107	2,117
Earth/atmos/ocean .	387	11	3	8	310	2	1	28	12	16	12	1	22	-	-	4	28	415
Mathematics	962	66	55	11	26	506	99	49	3	46	97	26	93	3	13	12	252	1,214
Computer/info sci .	74	-	-	-	1	3	61	1	1	-	3	1	4	-	-	-	4	78
Agric & biol sci . .	4,050	103	5	98	57	8	4	3,668	910	2,758	88	71	51	3	-	2	452	4,502
Agricultural sci .	910	3	-	3	6	4	-	833	675	158	41	2	21	-	-	2	58	968
Biological sci . . .	3,140	100	5	95	51	4	4	2,835	235	2,600	47	69	30	3	-	-	394	3,534
Social sciences . . .	1,981	5	2	3	9	7	5	44	19	25	1,721	182	8	-	-	-	970	2,951
Psychology	2,214	4	-	4	3	3	4	82	4	78	81	2,028	9	-	-	-	798	3,012
Total, engineering(1)	2,639	68	54	14	31	41	62	38	14	24	37	7	2,355	364	460	424	175	2,814
Chemical	438	15	3	12	2	3	2	7	3	4	5	-	404	352	2	5	13	451
Electrical	658	29	29	-	3	15	46	9	1	8	4	4	548	-	429	8	33	691
Mechanical	461	6	6	-	2	4	1	-	-	-	6	-	442	2	6	322	41	502
Total, non-S&E(2) .	1,678	76	11	65	15	24	30	277	40	237	671	543	42	1	7	1	8,835	10,513
Unknown	1,462	209	91	118	44	70	25	324	71	253	250	237	303	27	74	55	907	2,369
Total, all fields . . .	18,712	2,916	1,080	1,836	617	688	310	4,904	1,111	3,793	2,994	3,117	3,166	440	631	513	12,585	31,297
Year of doctorate - 1990																		
Total, S&E	18,645	3,103	1,241	1,862	681	733	584	4,639	999	3,640	2,188	2,342	4,375	535	1,001	789	3,021	21,666
Physical sciences .	3,739	2,771	1,081	1,690	84	41	38	458	33	425	32	14	301	37	85	22	161	3,900
Physics/astronomy	1,499	1,076	1,061	15	53	33	30	63	3	60	20	8	216	4	83	22	59	1,558
Chemistry	2,240	1,695	20	1,675	31	8	8	395	30	365	12	6	85	33	2	-	102	2,342
Earth/atmos/ocean .	571	26	14	12	440	2	-	50	19	31	21	-	32	-	3	3	37	608
Mathematics	1,112	54	46	8	11	607	149	46	3	43	92	23	130	2	28	16	249	1,361
Computer/info sci .	233	3	1	2	-	18	188	1	-	1	5	2	16	-	6	-	15	248
Agric & biol sci . .	4,330	82	5	77	77	9	9	3,897	902	2,995	105	77	74	7	3	2	507	4,837
Agricultural sci .	1,057	4	1	3	18	2	-	958	712	246	51	1	23	-	1	1	77	1,134
Biological sci . . .	3,273	78	4	74	59	7	9	2,939	190	2,749	54	76	51	7	2	1	430	3,703
Social sciences . . .	2,044	6	1	5	24	13	11	47	20	27	1,770	158	15	1	1	2	1,026	3,070
Psychology	2,260	6	2	4	2	1	7	73	1	72	105	2,049	17	2	1	1	806	3,066
Total, engineering(1)	4,356	155	91	64	43	42	182	67	21	46	58	19	3,790	486	874	743	220	4,576
Chemical	714	47	2	45	6	4	5	20	6	14	10	3	619	474	6	7	24	738
Electrical	1,163	38	37	1	7	14	117	9	1	8	6	1	971	1	790	5	38	1,201
Mechanical	808	15	14	1	6	6	9	7	2	5	6	1	758	1	14	581	47	855
Total, non-S&E(2) .	1,917	79	18	61	21	37	61	383	54	329	675	594	67	2	6	5	9,221	11,138
Unknown	2,115	310	133	177	67	122	60	485	123	362	287	333	451	24	103	89	1,138	3,253
Total, all fields . . .	22,677	3,492	1,392	2,100	769	892	705	5,507	1,176	4,331	3,150	3,269	4,893	561	1,110	883	13,380	36,057
Year of doctorate - 1991																		
Total, S&E	19,675	3,253	1,290	1,963	757	896	696	4,868	957	3,911	2,236	2,269	4,700	589	1,110	773	2,971	22,646
Physical sciences .	3,920	2,877	1,114	1,763	99	38	47	488	30	458	33	14	324	35	94	21	179	4,099
Physics/astronomy	1,559	1,114	1,096	18	69	35	40	62	5	57	20	3	216	2	89	19	71	1,630
Chemistry	2,361	1,763	18	1,745	30	3	7	426	25	401	13	11	108	33	5	2	108	2,469
Earth/atmos/ocean .	630	18	8	10	494	2	3	39	9	30	28	5	41	1	3	-	31	661
Mathematics	1,265	50	39	11	22	759	167	58	1	57	72	20	117	1	25	12	251	1,516
Computer/info sci .	294	3	1	2	3	11	241	3	1	2	10	4	19	-	6	-	33	327
Agric & biol sci . .	4,547	98	5	93	86	18	15	4,090	874	3,216	101	73	66	7	4	4	514	5,061
Agricultural sci .	1,051	5	-	5	13	8	3	943	694	249	51	5	23	2	1	2	71	1,122
Biological sci . . .	3,496	93	5	88	73	10	12	3,147	180	2,967	50	68	43	5	3	2	443	3,939
Social sciences . . .	2,053	5	1	4	17	6	12	46	16	30	1,806	155	6	-	1	1	964	3,017
Psychology	2,190	2	1	1	1	4	9	64	4	60	119	1,983	8	1	1	2	745	2,935
Total, engineering(1)	4,776	200	121	79	35	58	202	80	22	58	67	15	4,119	544	976	733	254	5,030
Chemical	803	55	4	51	5	7	2	22	2	20	7	1	704	529	7	14	32	835
Electrical	1,309	53	52	1	4	20	125	10	1	9	14	5	1,078	-	865	6	52	1,361
Mechanical	819	10	9	1	2	13	16	1	1	-	4	2	771	4	19	561	55	874
Total, non-S&E(2) .	2,115	91	19	72	24	28	60	391	38	353	800	652	69	-	8	4	9,658	11,773
Unknown	1,958	258	99	159	56	116	41	455	77	378	270	319	443	31	88	97	1,074	3,032
Total, all fields . . .	23,748	3,602	1,408	2,194	837	1,040	797	5,714	1,072	4,642	3,306	3,240	5,212	620	1,206	874	13,703	37,451

NOTE: See Technical Notes for definition of field-switching.

(1) Subtotal includes doctorate recipients whose engineering fields are not separately shown.

(2) Non-S&E doctorates in this table include those whose field of specialization is unknown.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

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Table 8. Science and engineering (S&E) doctorates awarded, by sex and major field of recipients and State of degree-granting institution: 1991

Sex and State of institution	Major field of doctorate																	
	Total S&E	Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(1)				Non-S&E (2)	Total all fields
		Sub-total	Phys &astr	Chem-istry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
TOTAL, MALE AND FEMALE																		
Total, all States	23,748	3,602	1,408	2,194	837	1,040	797	5,714	1,072	4,642	3,306	3,240	5,212	620	1,206	874	13,703	37,451
Alabama	200	29	15	14	2	8	7	62	14	48	8	33	51	5	6	14	187	387
Alaska	10	2	2	-	6	-	-	2	1	1	-	-	-	-	-	-	-	10
Arizona	439	91	47	44	35	13	13	103	27	76	55	36	93	10	26	14	230	669
Arkansas	59	12	8	4	-	-	-	29	11	18	-	10	8	-	2	-	64	123
California	3,252	478	214	264	137	147	120	628	53	575	423	640	679	57	202	125	1,189	4,441
Colorado	473	75	29	46	38	24	10	96	31	65	67	49	114	12	22	11	179	652
Connecticut	371	66	28	38	5	24	11	111	5	106	86	32	36	6	9	5	216	587
Delaware	100	21	11	10	8	3	1	8	1	7	15	7	37	13	6	9	33	133
Florida	560	64	16	48	22	18	29	131	34	97	76	98	122	13	38	17	555	1,115
Georgia	456	53	18	35	8	6	12	146	30	116	42	87	102	8	30	17	336	792
Hawaii	101	6	4	2	8	2	1	35	8	27	39	8	2	-	2	-	42	143
Idaho	44	4	-	4	4	1	-	22	11	11	3	-	10	4	1	-	32	76
Illinois	1,362	209	90	119	30	52	68	312	51	261	204	174	313	27	89	54	767	2,129
Indiana	606	116	34	82	13	26	15	122	18	104	96	65	153	25	51	21	387	993
Iowa	395	96	25	71	10	26	13	105	28	77	39	15	91	4	10	37	279	674
Kansas	206	29	7	22	2	7	5	76	27	49	16	35	36	3	3	6	165	371
Kentucky	148	11	2	9	2	6	1	61	19	42	26	22	19	1	7	3	116	264
Louisiana	252	39	7	32	6	21	19	83	22	61	24	29	31	10	4	2	165	417
Maine	28	5	2	3	-	-	-	10	3	7	-	7	6	2	-	-	4	32
Maryland	551	81	49	32	13	36	20	169	13	156	81	52	99	12	35	10	285	836
Massachusetts	1,413	271	138	133	44	79	36	280	13	267	287	89	327	53	44	49	710	2,123
Michigan	867	132	46	86	16	41	20	201	47	154	118	116	223	14	37	37	501	1,368
Minnesota	496	52	16	36	9	29	19	141	58	83	100	60	86	19	19	19	299	795
Mississippi	135	25	1	24	-	1	1	36	22	14	9	48	15	1	5	1	194	329
Missouri	383	51	21	30	15	17	6	90	19	71	41	82	81	9	14	13	237	620
Montana	43	12	5	7	1	-	-	14	3	11	2	9	5	1	2	1	13	56
Nebraska	100	5	2	3	2	3	5	50	27	23	11	18	6	-	-	1	119	219
Nevada	32	6	1	5	9	-	-	6	-	6	-	8	3	-	2	-	5	37
New Hampshire	66	11	3	8	3	1	-	25	2	23	5	8	13	1	1	1	10	76
New Jersey	492	68	31	37	23	24	21	99	19	80	77	46	134	26	28	18	217	709
New Mexico	154	32	14	18	12	8	6	36	11	25	8	24	28	-	5	4	76	230
New York	2,344	344	157	187	48	110	79	526	49	477	375	392	470	57	130	81	1,396	3,740
North Carolina	605	86	23	63	15	34	16	208	45	163	68	49	129	7	28	22	294	899
North Dakota	43	6	-	6	-	1	2	21	9	12	-	10	3	-	1	1	20	63
Ohio	951	180	46	134	11	34	31	224	19	205	99	141	231	19	47	42	641	1,592
Oklahoma	198	19	5	14	10	2	7	40	10	30	22	38	60	16	9	16	180	378
Oregon	250	40	11	29	18	7	6	88	37	51	33	22	36	-	15	9	164	414
Pennsylvania	1,205	174	70	104	42	50	54	198	15	183	207	140	340	52	64	48	766	1,971
Rhode Island	200	32	13	19	25	19	11	45	5	40	24	18	26	3	8	8	68	268
South Carolina	196	38	3	35	22	8	2	56	5	51	17	13	40	5	9	4	157	353
South Dakota	26	-	-	-	1	-	-	12	6	6	-	7	6	-	-	-	21	47
Tennessee	317	38	14	24	2	9	6	90	8	82	30	76	66	8	15	11	258	575
Texas	1,381	204	83	121	67	43	62	322	78	244	136	170	377	60	84	49	949	2,330
Utah	246	40	7	33	9	6	7	55	25	30	29	41	59	7	5	8	107	353
Vermont	41	5	-	5	-	-	-	21	1	20	-	8	7	-	4	1	10	51
Virginia	531	60	21	39	21	35	14	129	30	99	59	65	148	12	23	39	302	833
Washington	451	64	23	41	37	15	16	133	38	95	58	32	96	19	24	9	206	657
West Virginia	66	3	-	3	1	-	-	23	10	13	6	10	23	3	3	7	49	115
Wisconsin	577	80	38	42	17	32	18	172	48	124	100	41	117	15	24	23	289	866
Wyoming	50	7	-	7	6	9	-	17	6	11	1	5	5	1	2	1	17	67
District of Columbia	258	25	8	17	2	3	7	43	-	43	83	45	50	-	11	6	177	435
Puerto Rico	18	5	-	5	-	-	-	2	-	2	1	10	-	-	-	-	20	38

See footnotes at end of table.

Table 8. Science and engineering (S&E) doctorates awarded, by sex and major field of recipients and State of degree-granting institution: 1991--continued

		Major field of doctorate																
Sex and State of institution	Total S&E	Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(1)				Non-S&E (2)	Total all fields
		Sub-total	Phys &astr	Chemistry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
MALE																		
Total, all States	16,991	2,943	1,256	1,687	652	846	681	3,746	863	2,883	2,107	1,256	4,760	548	1,140	817	6,695	23,686
Alabama	151	25	13	12	2	8	5	46	12	34	7	11	47	5	6	13	75	226
Alaska	9	2	2	-	6	-	-	1	1	-	-	-	-	-	-	-	-	9
Arizona	350	79	42	37	32	11	12	74	21	53	36	18	88	10	25	14	110	460
Arkansas	43	9	7	2	-	-	-	23	10	13	-	4	7	-	1	-	39	82
California	2,230	400	198	202	100	120	101	407	38	369	254	244	604	46	192	113	589	2,819
Colorado	360	61	26	35	28	18	8	73	27	46	50	20	102	10	22	10	79	439
Connecticut	250	55	25	30	5	17	10	67	5	62	50	16	30	5	8	4	104	354
Delaware	75	18	9	9	6	3	1	5	1	4	6	3	33	12	5	8	19	94
Florida	396	51	14	37	17	17	22	95	29	66	54	34	106	13	35	16	270	666
Georgia	320	44	16	28	7	6	10	93	25	68	30	33	97	7	29	17	164	484
Hawaii	75	6	4	2	7	2	1	23	6	17	29	5	2	-	2	-	13	88
Idaho	35	4	-	4	4	1	-	15	8	7	1	-	10	4	1	-	11	46
Illinois	991	172	80	92	24	41	58	200	41	159	126	79	291	24	86	51	392	1,383
Indiana	450	88	30	58	11	22	13	82	15	67	60	32	142	22	46	19	208	658
Iowa	313	77	22	55	9	20	11	71	22	49	30	6	89	4	9	37	151	464
Kansas	158	26	7	19	2	6	5	57	21	36	12	17	33	3	3	5	70	228
Kentucky	101	10	2	8	2	6	1	41	16	25	15	8	18	1	7	3	73	174
Louisiana	170	28	6	22	6	11	14	56	20	36	13	13	29	9	4	2	92	262
Maine	20	3	2	1	-	-	-	7	2	5	-	4	6	2	-	-	1	21
Maryland	348	63	43	20	9	30	18	92	9	83	43	14	79	9	32	9	117	465
Massachusetts	1,026	219	119	100	31	68	32	158	10	148	198	37	283	43	36	46	344	1,370
Michigan	635	105	42	63	13	36	17	140	36	104	73	43	208	13	36	34	254	889
Minnesota	356	44	15	29	5	25	18	93	43	50	66	26	79	18	18	18	147	503
Mississippi	92	20	1	19	-	-	1	29	20	9	7	20	15	1	5	1	108	200
Missouri	260	40	20	20	14	15	6	56	15	41	32	20	77	8	14	13	128	388
Montana	32	10	5	5	1	-	-	11	2	9	-	5	5	1	2	1	5	37
Nebraska	71	5	2	3	2	3	5	36	19	17	7	8	5	-	-	1	50	121
Nevada	25	6	1	5	8	-	-	5	-	5	-	3	3	-	2	-	-	25
New Hampshire	48	10	3	7	2	-	-	18	2	16	3	4	11	1	1	1	3	51
New Jersey	357	58	30	28	18	19	19	61	12	49	46	21	115	22	27	14	103	460
New Mexico	119	28	14	14	9	8	4	29	10	19	5	10	26	-	5	3	34	153
New York	1,608	274	134	140	32	91	65	334	33	301	227	149	436	54	123	80	665	2,273
North Carolina	418	64	19	45	12	27	14	124	35	89	44	14	119	6	27	18	129	547
North Dakota	32	4	-	4	-	-	2	18	8	10	-	5	3	-	1	1	8	40
Ohio	684	148	39	109	10	30	26	143	16	127	59	55	213	17	45	40	319	1,003
Oklahoma	145	15	3	12	7	2	7	27	8	19	16	17	54	15	9	13	78	223
Oregon	194	33	10	23	17	5	6	66	35	31	24	8	35	-	14	9	96	290
Pennsylvania	880	151	62	89	33	40	49	121	9	112	126	51	309	44	61	45	371	1,251
Rhode Island	131	24	11	13	13	14	8	27	3	24	11	9	25	3	7	8	35	166
South Carolina	152	35	3	32	18	6	2	38	4	34	13	3	37	5	8	4	68	220
South Dakota	18	-	-	-	1	-	-	9	4	5	-	2	6	-	-	-	12	30
Tennessee	197	28	11	17	1	8	5	52	6	46	18	24	61	7	15	11	118	315
Texas	1,047	169	73	96	53	33	53	224	65	159	90	71	354	55	80	46	454	1,501
Utah	190	32	7	25	8	4	7	41	23	18	18	24	56	7	5	7	70	260
Vermont	25	3	-	3	-	-	-	14	1	13	-	1	7	-	4	1	3	28
Virginia	378	50	20	30	15	28	11	77	23	54	39	17	141	10	22	38	144	522
Washington	345	50	21	29	30	12	13	100	36	64	42	13	85	17	21	8	89	434
West Virginia	47	3	-	3	1	-	-	15	7	8	5	2	21	2	3	6	25	72
Wisconsin	427	67	36	31	14	26	15	117	43	74	65	16	107	12	23	23	163	590
Wyoming	40	5	-	5	6	7	-	14	6	8	1	2	5	1	2	1	7	47
District of Columbia	159	18	7	11	1	-	6	20	-	20	56	12	46	-	11	5	81	240
Puerto Rico	8	4	-	4	-	-	-	1	-	1	-	3	-	-	-	-	7	15

See footnotes at end of table.

Table 8. Science and engineering (S&E) doctorates awarded, by sex and major field of recipients and State of degree-granting institution: 1991--continued

Sex and State of institution	Major field of doctorate																	
	Total S&E	Physical Sciences			Earth/atmos/ocean	Math	Comp/info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(1)				Non-S&E (2)	Total all fields
		Sub-total	Phys &astr	Chemistry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
FEMALE																		
Total, all States . .	6,757	659	152	507	185	194	116	1,968	209	1,759	1,199	1,984	452	72	66	57	7,008	13,765
Alabama	49	4	2	2	-	-	2	16	2	14	1	22	4	-	-	1	112	161
Alaska	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1
Arizona	89	12	5	7	3	2	1	29	6	23	19	18	5	-	1	-	120	209
Arkansas	16	3	1	2	-	-	-	6	1	5	-	6	1	-	1	-	25	41
California	1,022	78	16	62	37	27	19	221	15	206	169	396	75	11	10	12	600	1,622
Colorado	113	14	3	11	10	6	2	23	4	19	17	29	12	2	-	1	100	213
Connecticut	121	11	3	8	-	7	1	44	-	44	36	16	6	1	1	1	112	233
Delaware	25	3	2	1	2	-	-	3	-	3	9	4	4	1	1	1	14	39
Florida	164	13	2	11	5	1	7	36	5	31	22	64	16	-	3	1	285	449
Georgia	136	9	2	7	1	-	2	53	5	48	12	54	5	1	1	-	172	308
Hawaii	26	-	-	-	1	-	-	12	2	10	10	3	-	-	-	-	29	55
Idaho	9	-	-	-	-	-	-	7	3	4	2	-	-	-	-	-	21	30
Illinois	371	37	10	27	6	11	10	112	10	102	78	95	22	3	3	3	375	746
Indiana	156	28	4	24	2	4	2	40	3	37	36	33	11	3	5	2	179	335
Iowa	82	19	3	16	1	6	2	34	6	28	9	9	2	-	1	-	128	210
Kansas	48	3	-	3	-	1	-	19	6	13	4	18	3	-	-	1	95	143
Kentucky	47	1	-	1	-	-	-	20	3	17	11	14	1	-	-	-	43	90
Louisiana	82	11	1	10	-	10	5	27	2	25	11	16	2	1	-	-	73	155
Maine	8	2	-	2	-	-	-	3	1	2	-	3	-	-	-	-	3	11
Maryland	203	18	6	12	4	6	2	77	4	73	38	38	20	3	3	1	168	371
Massachusetts	387	52	19	33	13	11	4	122	3	119	89	52	44	10	8	3	366	753
Michigan	232	27	4	23	3	5	3	61	11	50	45	73	15	1	1	3	247	479
Minnesota	140	8	1	7	4	4	1	48	15	33	34	34	7	1	1	1	152	292
Mississippi	43	5	-	5	-	1	-	7	2	5	2	28	-	-	-	-	86	129
Missouri	123	11	1	10	1	2	-	34	4	30	9	62	4	1	-	-	109	232
Montana	11	2	-	2	-	-	-	3	1	2	2	4	-	-	-	-	8	19
Nebraska	29	-	-	-	-	-	-	14	8	6	4	10	1	-	-	-	69	98
Nevada	7	-	-	-	1	-	-	1	-	1	-	5	-	-	-	-	5	12
New Hampshire . . .	18	1	-	1	1	1	-	7	-	7	2	4	2	-	-	-	7	25
New Jersey	135	10	1	9	5	5	2	38	7	31	31	25	19	4	1	4	114	249
New Mexico	35	4	-	4	3	-	2	7	1	6	3	14	2	-	-	1	42	77
New York	736	70	23	47	16	19	14	192	16	176	148	243	34	3	7	1	731	1,467
North Carolina	187	22	4	18	3	7	2	84	10	74	24	35	10	1	1	4	165	352
North Dakota	11	2	-	2	-	1	-	3	1	2	-	5	-	-	-	-	12	23
Ohio	267	32	7	25	1	4	5	81	3	78	40	86	18	2	2	2	322	589
Oklahoma	53	4	2	2	3	-	-	13	2	11	6	21	6	1	-	3	102	155
Oregon	56	7	1	6	1	2	-	22	2	20	9	14	1	-	1	-	68	124
Pennsylvania	325	23	8	15	9	10	5	77	6	71	81	89	31	8	3	3	395	720
Rhode Island	69	8	2	6	12	5	3	18	2	16	13	9	1	-	1	-	33	102
South Carolina	44	3	-	3	4	2	-	18	1	17	4	10	3	-	1	-	89	133
South Dakota	8	-	-	-	-	-	-	3	2	1	-	5	-	-	-	-	9	17
Tennessee	120	10	3	7	1	1	1	38	2	36	12	52	5	1	-	-	140	260
Texas	334	35	10	25	14	10	9	98	13	85	46	99	23	5	4	3	495	829
Utah	56	8	-	8	1	2	-	14	2	12	11	17	3	-	-	1	37	93
Vermont	16	2	-	2	-	-	-	7	-	7	-	7	-	-	-	-	7	23
Virginia	153	10	1	9	6	7	3	52	7	45	20	48	7	2	1	1	158	311
Washington	106	14	2	12	7	3	3	33	2	31	16	19	11	2	3	1	117	223
West Virginia	19	-	-	-	-	-	-	8	3	5	1	8	2	1	-	1	24	43
Wisconsin	150	13	2	11	3	6	3	55	5	50	35	25	10	3	1	-	126	276
Wyoming	10	2	-	2	-	2	-	3	-	3	-	3	-	-	-	-	10	20
District of Columbia	99	7	1	6	1	3	1	23	-	23	27	33	4	-	-	1	96	195
Puerto Rico	10	1	-	1	-	-	-	1	-	1	1	7	-	-	-	-	13	23

(1) Subtotal includes doctorate recipients whose engineering fields are not separately shown.

(2) Non-S&E doctorates in this table include those whose field of specialization is unknown.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

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Table 9. Top 100 institutions conferring science and engineering (S&E) doctorates, by sex of recipients: 1981-91

Sex and institution(1)	Year of doctorate											
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
TOTAL, MALE AND FEMALE												
Calif, U-Berkeley	483	542	519	517	549	563	534	585	658	607	569	6,126
Ill, U, Urbana-Champgn	411	358	382	381	442	383	434	444	468	514	527	4,744
Wisconsin, U-Madison	389	442	398	399	458	413	453	479	485	460	481	4,857
Minnesota, U-Minneaplis	316	291	275	312	336	381	310	337	360	403	473	3,794
Mass Inst Technology	384	391	412	389	421	442	436	489	469	478	466	4,777
Stanford Univ/CA	358	339	308	364	334	393	405	411	412	411	443	4,178
Michigan, Univ of	315	323	376	348	371	348	344	344	335	382	441	3,927
Texas, U-Austin	228	234	228	227	255	298	330	326	329	367	423	3,245
Cornell Univ/NY	333	328	355	351	337	371	367	377	395	455	415	4,084
Calif, U-Los Angeles	330	310	311	296	296	282	288	363	334	382	391	3,583
Ohio State Univ	274	305	293	269	323	297	322	307	371	366	384	3,511
Penn State Univ	233	240	261	243	234	237	251	260	289	282	346	2,876
Purdue University/IN	326	288	305	308	308	320	300	302	348	383	341	3,529
Texas A&M University	195	180	202	227	221	228	257	253	310	305	340	2,718
Washington, U of	231	246	249	237	221	249	262	279	272	283	319	2,848
Calif, U-Davis	253	193	276	239	209	229	234	252	247	234	317	2,683
Harvard Univ/MA	232	244	256	246	205	243	215	242	221	268	294	2,666
Maryland, Univ of	172	202	192	209	210	213	220	205	244	302	290	2,459
Florida, Univ of	166	142	206	203	216	203	223	236	259	273	288	2,415
Arizona, Univ of	154	179	188	197	182	171	214	225	237	228	286	2,261
Pennsylvania, U of	214	256	217	211	206	202	248	221	272	240	277	2,564
Michigan State Univ	279	305	299	250	240	242	258	268	287	286	252	2,966
Columbia Univ/NY	231	222	197	233	245	219	215	222	254	243	238	2,519
Iowa State Univ	211	205	186	196	210	206	247	255	221	215	237	2,389
Northwestern Univ/IL	184	193	179	188	218	207	211	220	259	234	230	2,323
CUNY-Grad Sch&U Ctr	144	142	147	147	143	165	171	195	157	190	229	1,830
VA Poly Inst&St U	135	144	152	164	167	178	187	192	251	212	229	2,011
NC State U-Raleigh	128	168	164	171	175	193	180	210	199	252	227	2,067
Colorado, U-Boulder	156	132	146	150	141	168	159	173	183	196	223	1,827
Southern Calif, U of	147	143	177	192	163	187	147	156	205	182	216	1,915
Mass, U of-Amherst	153	151	144	149	175	146	169	157	185	189	212	1,830
Yale University/CT	163	172	165	177	165	149	202	181	193	204	202	1,973
Rutgers Univ/NJ	189	149	171	171	173	167	168	173	181	218	201	1,961
Chicago, Univ of/IL	219	223	200	192	163	195	188	206	196	201	200	2,183
Johns Hopkins U/MD	141	122	128	136	166	149	152	162	156	159	199	1,670
NC, U of-Chapel Hill	176	158	188	170	151	157	166	173	174	202	189	1,904
Calif, U-San Diego	150	140	143	129	125	140	142	177	172	163	189	1,670
SUNY at Buffalo	153	191	151	136	143	146	155	176	158	161	184	1,754
SUNY at Stony Brook	103	126	119	147	143	137	157	141	147	155	182	1,557
Princeton Univ/NJ	150	164	169	165	156	167	151	205	171	185	179	1,862
Colorado State Univ	139	131	143	147	140	141	145	166	149	165	173	1,639
New York University	182	203	157	170	156	158	176	176	140	173	170	1,861
Virginia, Univ of	105	104	123	111	119	111	126	144	150	126	167	1,386
Georgia, Univ of	142	149	134	127	180	145	136	152	169	147	165	1,646
Connecticut, Univ of	124	83	91	117	107	112	125	125	128	135	160	1,307
Pittsburgh, Univ of	122	163	144	152	171	151	166	167	147	165	159	1,707
Iowa, University of	93	121	97	103	108	109	134	146	122	138	156	1,327
Calif Inst of Tech	129	120	136	122	129	133	147	146	134	148	154	1,498
Duke University/NC	143	125	130	126	118	105	119	96	112	127	153	1,354
Georgia Inst of Tech	50	58	72	80	64	82	87	94	117	111	149	964

See footnote at end of table.

Table 9. Top 100 institutions conferring science and engineering (S&E) doctorates, by sex of recipients: 1981-91--continued

Sex and institution(1)	Year of doctorate											
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
TOTAL, MALE AND FEMALE												
Indiana U-Bloomington	160	153	154	164	154	133	141	161	136	135	145	1,636
Illinois, U-Chicago	65	55	56	58	74	81	111	109	110	130	145	994
Cincinnati, U of/OH	82	93	103	107	93	95	95	111	112	124	144	1,159
Utah, Univ of	108	111	110	110	112	119	117	141	119	129	144	1,320
Boston University/MA	75	107	108	122	109	129	123	117	119	119	143	1,271
Carnegie Mellon U/PA	84	78	75	83	112	103	94	119	133	148	143	1,172
Tenn, U-Knoxville	135	132	121	127	126	143	126	130	122	138	141	1,441
Arizona State Univ	48	72	60	54	58	67	74	85	99	104	141	862
Calif, U-Santa Barbara	103	89	93	113	103	97	112	121	121	129	141	1,222
Case Western Rsrve/OH	92	105	91	114	101	115	122	108	138	105	136	1,227
LA St U & A&M Coll	67	66	77	64	76	101	103	118	142	155	136	1,105
Rochester, U of/NY	106	114	117	96	104	127	123	106	143	149	134	1,319
Washington State U	104	102	107	128	110	121	128	128	116	118	132	1,294
Oregon State Univ	125	104	145	121	137	110	103	125	115	148	132	1,365
Rensselaer Poly Ins/NY	73	72	87	77	101	98	121	123	113	107	125	1,097
Missouri, U-Columbia	114	123	116	134	120	110	101	141	121	149	123	1,352
South Carolina, U of	65	75	69	61	83	79	77	106	78	105	121	919
Kentucky, Univ of	74	63	90	90	86	77	95	93	116	106	120	1,010
Brown University/RI	85	91	80	83	101	96	101	116	108	89	117	1,067
Vanderbilt Univ/TN	65	56	56	71	79	63	76	75	88	87	116	832
Washington Univ/MO	96	105	105	96	89	91	92	102	97	134	115	1,122
Kansas, Univ of	118	136	118	130	161	113	123	107	133	111	114	1,364
Syracuse Univ/NY	92	79	66	82	75	76	85	105	104	98	112	974
Wayne State Univ/MI	79	81	103	75	84	94	70	84	86	88	103	947
Florida State Univ	104	96	109	91	93	97	87	114	93	101	101	1,086
Calif, U-Irvine	66	74	63	72	65	98	70	99	87	110	101	905
Hawaii, Univ of	92	88	91	86	108	106	103	76	127	93	101	1,071
Delaware, Univ of	39	87	52	82	71	81	78	86	91	97	100	864
Oklahoma State Univ	99	87	92	107	107	109	102	107	104	133	100	1,147
Temple University/PA	82	91	74	76	86	90	116	90	96	97	97	995
Nebraska, U-Lincoln	141	117	134	126	104	108	119	136	130	128	97	1,340
U S Internatl U/CA	201	165	156	124	78	62	65	68	88	106	94	1,207
Geo Washington U/DC	81	88	94	80	83	116	58	96	86	116	88	986
New Mexico, Univ of	56	44	56	52	71	88	79	79	86	72	88	771
Auburn University/AL	46	48	43	43	51	56	64	67	78	77	87	660
Houston, U of/TX	66	78	70	80	68	77	77	92	94	81	87	870
Rice University/TX	59	53	56	70	60	77	86	71	97	87	86	802
Oklahoma, U of	86	69	99	66	70	83	68	73	80	82	84	860
Rhode Island, U of	44	61	62	57	56	58	62	71	66	58	83	678
Lehigh University/PA	35	25	34	60	48	50	61	62	68	75	83	601
Notre Dame, U of/IN	58	52	75	53	57	75	78	58	75	80	83	744
Kansas State Univ	91	78	87	73	96	85	103	105	96	101	82	997
Oregon, Univ of	88	77	71	92	74	91	49	58	84	70	81	835
Texas Tech Univ	47	37	66	71	62	76	75	77	82	81	80	754
Calif, U-Riverside	86	90	84	94	105	84	72	86	67	56	77	901
Illinois Inst Tech	65	40	42	45	48	51	45	63	37	73	76	585
Miami, Univ of/FL	50	50	52	61	52	64	79	83	67	74	73	705
Akron, U of/OH	28	38	33	42	36	38	51	37	51	53	71	478
VA Commonwealth U	19	20	20	21	30	27	25	28	30	29	70	319
Cal S Prof Psy-Alhambra	43	52	52	42	46	56	61	58	112	68	68	658

See footnote at end of table.

Table 9. Top 100 institutions conferring science and engineering (S&E) doctorates, by sex of recipients: 1981-91--continued

Sex and institution(1)	Year of doctorate											Total 1981-1991
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	
MALE												
Calif, U-Berkeley	384	432	411	422	421	427	408	457	492	471	442	4,767
Ill, U, Urbana-Champgn	354	312	327	325	354	305	362	367	377	408	423	3,914
Mass Inst Technology	325	343	347	337	350	357	356	404	390	393	377	3,979
Wisconsin, U-Madison	316	349	315	317	353	326	369	362	370	342	360	3,779
Minnesota, U-Minneapls	231	232	208	238	265	289	210	259	269	300	342	2,843
Stanford Univ/CA	318	284	259	305	269	334	327	348	333	323	337	3,437
Texas, U-Austin	185	185	175	174	193	238	257	250	245	283	336	2,521
Michigan, Univ of	236	241	268	259	287	256	249	268	268	290	332	2,954
Cornell Univ/NY	270	259	281	264	262	284	285	263	284	347	305	3,104
Ohio State Univ	195	239	223	205	235	231	250	228	278	264	298	2,646
Purdue University/IN	285	249	251	261	249	252	230	253	282	312	276	2,900
Texas A&M University	169	158	168	196	192	186	215	212	246	242	272	2,256
Calif, U-Los Angeles	261	232	237	218	216	198	200	256	231	271	269	2,589
Penn State Univ	182	193	204	196	191	182	191	205	228	219	255	2,246
Washington, U of	185	194	192	174	171	191	202	198	205	201	244	2,157
Arizona, Univ of	133	154	151	168	143	139	169	171	184	184	231	1,827
Florida, Univ of	134	112	154	166	176	162	173	179	184	213	221	1,874
Calif, U-Davis	200	151	229	184	155	170	162	182	192	177	219	2,021
Harvard Univ/MA	180	179	195	179	155	178	172	181	164	207	212	2,002
Maryland, Univ of	120	129	129	139	138	147	150	149	165	207	194	1,667
Pennsylvania, U of	156	181	145	134	156	144	167	148	194	155	192	1,772
Iowa State Univ	184	176	157	161	166	168	207	191	181	168	190	1,949
VA Poly Inst&St U	117	111	133	132	140	146	151	150	207	166	183	1,636
NC State U-Raleigh	106	140	141	143	135	155	147	162	167	199	182	1,677
Michigan State Univ	230	249	237	197	194	180	199	188	220	216	180	2,290
Colorado, U-Boulder	116	99	100	109	105	128	117	125	128	149	177	1,353
Columbia Univ/NY	163	160	134	155	172	138	150	150	168	163	165	1,718
Northwestern Univ/IL	139	151	130	135	161	147	149	159	184	168	154	1,677
Southern Calif, U of	110	104	132	134	116	142	106	120	151	136	153	1,404
Mass, U of-Amherst	117	114	101	101	129	98	124	109	133	128	152	1,306
CUNY-Grad Sch&U Ctr	86	88	86	85	95	100	98	116	79	108	150	1,091
Chicago, Univ of/IL	172	177	145	139	111	137	144	149	144	149	140	1,607
Calif Inst of Tech	114	108	129	111	109	120	130	123	105	121	140	1,310
SUNY at Buffalo	118	145	120	98	100	108	114	127	110	114	139	1,293
Princeton Univ/NJ	126	133	136	122	131	129	123	173	134	140	138	1,485
Rutgers Univ/NJ	128	114	117	125	129	120	110	120	117	150	138	1,368
Yale University/CT	128	133	127	133	118	111	148	131	137	144	134	1,444
Calif, U-San Diego	126	111	106	94	91	104	109	127	125	120	134	1,247
Georgia Inst of Tech	45	53	68	71	51	74	72	76	107	103	133	853
Colorado State Univ	126	109	133	117	122	124	122	128	120	133	133	1,367
Iowa, University of	74	97	75	79	94	84	102	116	86	93	122	1,022
Johns Hopkins U/MD	105	91	87	91	109	107	120	109	111	117	122	1,169
Carnegie Mellon U/PA	73	67	66	63	96	84	78	99	106	121	121	974
Duke University/NC	100	82	79	94	80	75	77	71	76	91	118	943
Virginia, Univ of	86	80	90	86	83	87	90	110	99	92	117	1,020
Georgia, Univ of	113	108	100	83	128	101	90	103	100	112	117	1,155
SUNY at Stony Brook	75	96	93	112	104	89	107	100	101	116	116	1,109
Oregon State Univ	105	91	128	97	115	91	82	104	91	118	115	1,137
Utah, Univ of	92	85	83	92	95	84	95	115	96	97	113	1,047
Connecticut, Univ of	77	55	65	81	72	80	87	93	75	75	111	871

See footnote at end of table.

Table 9. Top 100 institutions conferring science and engineering (S&E) doctorates, by sex of recipients: 1981-91--continued

Sex and institution(1)	Year of doctorate											Total 1981-1991
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	
MALE												
Rensselaer Poly Ins/NY	65	64	79	71	92	88	105	105	92	95	111	967
Arizona State Univ	35	54	44	37	42	50	52	66	74	82	110	646
New York University	108	121	91	95	86	90	102	106	85	108	109	1,101
Pittsburgh, Univ of	93	123	103	107	120	120	118	115	105	121	109	1,234
Calif, U-Santa Barbara	80	73	71	89	81	78	91	96	85	104	107	955
NC, U of-Chapel Hill	125	116	125	121	95	115	105	108	121	121	105	1,257
Illinois, U-Chicago	40	35	38	36	50	54	68	74	71	93	102	661
Washington State U	86	78	84	102	90	85	99	105	82	92	101	1,004
Cincinnati, U of/OH	65	63	82	88	65	61	73	78	90	86	100	851
Case Western Rsrve/OH	75	78	74	88	82	88	89	90	112	86	99	961
Indiana U-Bloomington	116	113	114	121	116	100	107	112	100	99	95	1,193
Tenn, U-Knoxville	106	110	94	94	104	108	91	100	79	101	94	1,081
LA St U & A&M Coll	54	55	62	54	62	75	76	95	100	123	94	850
South Carolina, U of	49	51	53	43	63	54	58	67	50	81	92	661
Boston University/MA	41	72	59	77	68	74	64	68	81	70	90	764
Rochester, U of/NY	83	84	94	77	84	98	97	77	100	116	86	996
Washington Univ/MO	73	80	76	75	68	62	67	68	69	95	86	819
Kentucky, Univ of	66	46	69	71	68	61	71	62	81	77	85	757
Kansas, Univ of	92	93	85	100	119	81	79	74	95	82	83	983
Brown University/RI	71	73	60	63	76	69	75	87	81	55	79	789
Syracuse Univ/NY	75	58	39	61	53	52	60	73	79	67	79	696
Missouri, U-Columbia	101	99	89	110	95	85	73	99	97	108	77	1,033
Delaware, Univ of	29	70	35	62	51	66	60	64	68	64	75	644
Calif, U-Irvine	46	52	53	54	51	69	56	78	61	84	75	679
Hawaii, Univ of	72	67	67	66	81	74	68	54	90	59	75	773
Oklahoma State Univ	80	71	72	87	90	91	81	81	75	97	73	898
Vanderbilt Univ/TN	45	39	41	56	52	43	51	52	53	59	71	562
Wayne State Univ/MI	56	61	76	59	61	65	47	58	61	66	70	680
Nebraska, U-Lincoln	119	90	110	104	76	73	80	96	103	101	69	1,021
Auburn University/AL	39	41	33	27	33	50	45	57	58	57	69	509
New Mexico, Univ of	42	26	49	37	55	67	63	59	60	57	69	584
Rice University/TX	51	43	40	52	49	54	74	53	70	64	68	618
Lehigh University/PA	32	23	29	50	38	43	53	54	60	59	67	508
Florida State Univ	80	70	76	72	70	73	57	83	59	75	67	782
Kansas State Univ	78	65	74	60	81	64	80	75	77	76	66	796
Houston, U of/TX	48	62	53	57	51	62	64	74	70	67	66	674
Illinois Inst Tech	49	34	34	38	39	41	37	56	29	57	63	477
Temple University/PA	56	54	40	41	53	63	84	53	56	56	61	617
Oklahoma, U of	67	54	68	55	54	56	47	55	59	63	61	639
Geo Washington U/DC	61	59	61	55	57	82	40	67	57	74	60	673
Notre Dame, U of/IN	50	38	57	38	42	57	56	42	57	62	59	558
Missouri, U-Rolla	24	15	20	22	24	30	42	32	35	47	59	350
Calif, U-Riverside	70	67	58	70	79	66	51	63	49	39	58	670
Polytechnic Univ/NY	41	46	34	36	30	43	43	44	36	47	56	456
Texas Tech Univ	42	28	50	53	48	57	60	64	65	63	55	585
Akron, U of/OH	25	31	28	33	28	26	37	32	42	41	54	377
Rhode Island, U of	33	46	45	38	32	48	46	51	44	41	52	476
Clemson Univ/SC	24	29	44	40	37	37	34	49	58	53	50	455
Oregon, Univ of	57	52	52	63	49	63	35	42	58	43	48	562
West Virginia Univ	45	53	48	45	47	48	41	52	50	48	47	524
Miami, Univ of/FL	39	37	30	40	33	43	52	51	42	46	47	460
U S Internatl U/CA	131	105	76	69	48	36	36	33	42	56	47	679

See footnote at end of table.

Table 9. Top 100 institutions conferring science and engineering (S&E) doctorates, by sex of recipients: 1981-91--continued

Sex and institution(1)	Year of doctorate											
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
FEMALE												
Minnesota, U-Minneapls	85	59	67	74	71	92	100	78	91	103	131	951
Calif, U-Berkeley	99	110	108	95	128	136	126	128	166	136	127	1,359
Calif, U-Los Angeles	69	78	74	78	80	84	88	107	103	111	122	994
Wisconsin, U-Madison	73	93	83	82	105	87	84	117	115	118	121	1,078
Cornell Univ/NY	63	69	74	87	75	87	82	114	111	108	110	980
Michigan, Univ of	79	82	108	89	84	92	95	76	67	92	109	973
Stanford Univ/CA	40	55	49	59	65	59	78	63	79	88	106	741
Ill, U, Urbana-Champgn	57	46	55	56	88	78	72	77	91	106	104	830
Calif, U-Davis	53	42	47	55	54	59	72	70	55	57	98	662
Maryland, Univ of	52	73	63	70	72	66	70	56	79	95	96	792
Penn State Univ	51	47	57	47	43	55	60	55	61	63	91	630
Mass Inst Technology	59	48	65	52	71	85	80	85	79	85	89	798
Texas, U-Austin	43	49	53	53	62	60	73	76	84	84	87	724
Ohio State Univ	79	66	70	64	88	66	72	79	93	102	86	865
Pennsylvania, U of	58	75	72	77	50	58	81	73	78	85	85	792
NC, U of-Chapel Hill	51	42	63	49	56	42	61	65	53	81	84	647
Harvard Univ/MA	52	65	61	67	50	65	43	61	57	61	82	664
CUNY-Grad Sch&U Ctr	58	54	61	62	48	65	73	79	78	82	79	739
Johns Hopkins U/MD	36	31	41	45	57	42	32	53	45	42	77	501
Northwestern Univ/IL	45	42	49	53	57	60	62	61	75	66	76	646
Washington, U of	46	52	57	63	50	58	60	81	67	82	75	691
Columbia Univ/NY	68	62	63	78	73	81	65	72	86	80	73	801
Michigan State Univ	49	56	62	53	46	62	59	80	67	70	72	676
Yale University/CT	35	39	38	44	47	38	54	50	56	60	68	529
Texas A&M University	26	22	34	31	29	42	42	41	64	63	68	462
Florida, Univ of	32	30	52	37	40	41	50	57	75	60	67	541
SUNY at Stony Brook	28	30	26	35	39	48	50	41	46	39	66	448
Purdue University/IN	41	39	54	47	59	68	70	49	66	71	65	629
Rutgers Univ/NJ	61	35	54	46	44	47	58	53	64	68	63	593
Southern Calif, U of	37	39	45	58	47	45	41	36	54	46	63	511
New York University	74	82	66	75	70	68	74	70	55	65	61	760
Mass, U of-Amherst	36	37	43	48	46	48	45	48	52	61	60	524
Chicago, Univ of/IL	47	46	55	53	52	58	44	57	52	52	60	576
Arizona, Univ of	21	25	37	29	39	32	45	54	53	44	55	434
Calif, U-San Diego	24	29	37	35	34	36	33	50	47	43	55	423
Boston University/MA	34	35	49	45	41	55	59	49	38	49	53	507
Cal S Prof Psy-Alhambra	30	29	34	26	26	38	44	39	80	49	52	447
Pittsburgh, Univ of	29	40	41	45	51	31	48	52	42	44	50	473
Indiana U-Bloomington	44	40	40	43	38	33	34	49	36	36	50	443
Virginia, Univ of	19	24	33	25	36	24	36	34	51	34	50	366
Connecticut, Univ of	47	28	26	36	35	32	38	32	53	60	49	436
Rochester, U of/NY	23	30	23	19	20	29	26	29	43	33	48	323
Georgia, Univ of	29	41	34	44	52	44	46	49	69	35	48	491
Iowa State Univ	27	29	29	35	44	38	40	64	40	47	47	440
Tenn, U-Knoxville	29	22	27	33	22	35	35	30	43	37	47	360
U S Internatl U/CA	70	60	80	55	30	26	29	35	46	50	47	528
Missouri, U-Columbia	13	24	27	24	25	25	28	42	24	41	46	319
VA Poly Inst&St U	18	33	19	32	27	32	36	42	44	46	46	375
Colorado, U-Boulder	40	33	46	41	36	40	42	48	55	47	46	474
SUNY at Buffalo	35	46	31	38	43	38	41	49	48	47	45	461

See footnote at end of table.

Table 9. Top 100 institutions conferring science and engineering (S&E) doctorates, by sex of recipients: 1981-91--continued

Sex and institution(1)	Year of doctorate											
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
FEMALE												
NC State U-Raleigh	22	28	23	28	40	38	33	48	32	53	45	390
Vanderbilt Univ/TN	20	17	15	15	27	20	25	23	35	28	45	270
Cincinnati, U of/OH	17	30	21	19	28	34	22	33	22	38	44	308
Illinois, U-Chicago	25	20	18	22	24	27	43	35	39	37	43	333
LA St U & A&M Coll	13	11	15	10	14	26	27	23	42	32	42	255
Princeton Univ/NJ	24	31	33	43	25	38	28	32	37	45	41	377
Colorado State Univ	13	22	10	30	18	17	23	38	29	32	40	272
VA Commonwealth U	8	9	8	10	14	10	14	13	12	14	39	151
Brown University/RI	14	18	20	20	25	27	26	29	27	34	38	278
Cal S Prof Psy-San Dgo	15	11	25	18	30	20	11	16	25	40	38	249
Case Western Rsrve/OH	17	27	17	26	19	27	33	18	26	19	37	266
Temple University/PA	26	37	34	35	33	27	32	37	40	41	36	378
Duke University/NC	43	43	51	32	38	30	42	25	36	36	35	411
Kentucky, Univ of	8	17	21	19	18	16	24	31	35	29	35	253
Cal S Prof Psy-Alameda	42	18	23	28	27	24	36	31	34	40	35	338
Iowa, University of	19	24	22	24	14	25	32	30	36	45	34	305
Florida State Univ	24	26	33	19	23	24	30	31	34	26	34	304
Calif, U-Santa Barbara	23	16	22	24	22	19	21	25	36	25	34	267
Syracuse Univ/NY	17	21	27	21	22	24	25	32	25	31	33	278
Wayne State Univ/MI	23	20	27	16	23	29	23	26	25	22	33	267
Oregon, Univ of	31	25	19	29	25	28	14	16	26	27	33	273
Rhode Island, U of	11	15	17	19	24	10	16	20	22	17	31	202
Kansas, Univ of	26	43	33	30	42	32	44	33	38	29	31	381
Arizona State Univ	13	18	16	17	16	17	22	19	25	22	31	216
Utah, Univ of	16	26	27	18	17	35	22	26	23	32	31	273
Washington State U	18	24	23	26	20	36	29	23	34	26	31	290
Washington Univ/MO	23	25	29	21	21	29	25	34	28	39	29	303
South Carolina, U of	16	24	16	18	20	25	19	39	28	24	29	258
Nebraska, U-Lincoln	22	27	24	22	28	35	39	40	27	27	28	319
Geo Washington U/DC	20	29	33	25	26	34	18	29	29	42	28	313
Georgetown Univ/DC	24	21	21	26	14	23	26	21	27	31	28	262
Georgia State Univ	14	16	10	14	18	13	8	15	12	18	28	166
Calif, U-San Francisco	13	17	22	23	13	28	19	20	23	18	28	224
Fielding Inst/CA	-	1	24	11	14	25	21	18	26	20	28	188
Emory Univ/GA	16	13	15	12	9	13	15	18	25	29	27	192
Oklahoma State Univ	19	16	20	20	17	18	21	26	29	36	27	249
Miami, Univ of/FL	11	13	22	21	19	21	27	32	25	28	26	245
Calif, U-Irvine	20	22	10	18	14	29	14	21	26	26	26	226
Hawaii, Univ of	20	21	24	20	27	32	35	22	37	34	26	298
Tufts University/MA	15	10	9	12	16	14	16	17	15	25	25	174
Delaware, Univ of	10	17	17	20	20	15	18	22	23	33	25	220
Texas Tech Univ	5	9	16	18	14	19	15	13	17	18	25	169
Brandeis Univ/MA	18	25	29	30	33	37	26	33	29	28	24	312
SUNY at Albany	9	13	25	18	31	25	21	29	23	29	24	247
Notre Dame, U of/IN	8	14	18	15	15	18	22	16	18	18	24	186
Tulane U of LA	9	13	11	20	12	14	11	10	17	16	23	156
Oklahoma, U of	19	15	31	11	16	27	21	18	21	19	23	221
Cal S Prof Psy-Fresno	9	5	10	10	6	10	11	6	11	16	23	117
Carnegie Mellon U/PA	11	11	9	20	16	19	16	20	27	27	22	198
Hofstra Univ/NY	22	21	25	20	17	34	25	24	11	34	21	254
Kent State Univ/OH	20	21	18	16	20	16	19	22	26	22	21	221
Loyola U Chicago/IL	21	12	9	19	13	19	20	18	17	20	21	189
Houston, U of/TX	18	16	17	23	17	15	13	18	24	14	21	196
Wright Inst-Berkl/CA	-	-	-	-	-	-	8	11	10	15	21	65

(1) The institutions are ranked according to the number of S&E doctorate recipients in 1991. Degrees awarded by institutions jointly are included under the institution that officially conferred the degree.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

Table 10. Institutions conferring science and engineering (S&E) doctorates, by sex and major field: 1991

Sex and institution(1)	Total S&E	Major field Physical Sciences Sub-total	Phys &astr	Chem-istry	Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci Sub-total	Agri sci	Biol sci	Soc sci	Psych	Engineering(2) Sub-total	Chem	Elec	Mech	Non-S&E (3)	Total all fields
TOTAL, MALE AND FEMALE																		
Calif, U-Berkeley	569	94	39	55	14	54	17	107	13	94	112	14	157	18	39	37	209	778
Ill, U, Urbana-Champgn	527	98	47	51	11	17	33	132	49	83	58	29	149	12	56	19	211	738
Wisconsin, U-Madison	481	67	34	33	16	26	18	154	48	106	80	26	94	15	18	18	225	706
Minnesota, U-Minneapls	473	52	16	36	9	29	19	133	58	75	87	58	86	19	19	19	231	704
Mass Inst Technology	466	86	47	39	28	29	7	38	-	38	50	3	225	30	24	35	31	497
Stanford Univ/CA	443	60	34	26	28	13	27	48	2	46	50	18	199	10	61	47	113	556
Michigan, Univ of	441	62	25	37	13	17	14	76	8	68	62	37	160	11	24	20	218	659
Texas, U-Austin	423	77	42	35	17	10	28	50	-	50	58	40	143	29	21	8	287	710
Cornell Univ/NY	415	61	41	20	6	15	11	119	41	78	82	12	109	5	25	22	85	500
Calif, U-Los Angeles	391	63	37	26	20	24	23	76	-	76	82	32	71	4	20	16	181	572
Ohio State Univ	384	56	17	39	4	19	23	104	19	85	64	32	82	4	20	15	255	639
Penn State Univ	346	59	21	38	28	14	12	53	15	38	44	31	105	12	18	17	127	473
Purdue University/IN	341	51	9	42	7	15	13	74	18	56	38	15	128	20	42	16	89	430
Texas A&M University	340	45	6	39	22	5	5	118	65	53	25	19	101	14	19	18	105	445
Washington, U of	319	56	18	38	31	11	14	84	17	67	34	16	73	14	20	5	140	459
Calif, U-Davis	317	44	8	36	9	8	6	182	21	161	20	2	46	3	4	9	30	347
Harvard Univ/MA	294	56	32	24	7	19	9	88	-	88	100	13	2	-	-	-	240	534
Maryland, Univ of	290	54	34	20	7	24	15	55	13	42	42	36	57	6	26	7	163	453
Florida, Univ of	288	43	9	34	4	5	6	83	34	49	38	27	82	9	27	12	80	368
Arizona, Univ of	286	64	35	29	27	10	7	84	27	57	29	13	52	7	11	7	98	384
Pennsylvania, U of	277	34	18	16	3	9	13	56	-	56	96	14	52	8	4	6	172	449
Michigan State Univ	252	41	14	27	2	10	3	93	39	54	45	30	28	1	9	9	138	390
Columbia Univ/NY	238	35	22	13	14	12	8	34	-	34	47	32	56	2	15	13	160	398
Iowa State Univ	237	69	16	53	6	14	7	64	28	36	25	8	44	2	3	21	60	297
Northwestern Univ/IL	230	20	7	13	6	10	8	42	-	42	27	27	90	6	13	16	86	316
CUNY-Grad Sch&U Ctr	229	43	15	28	1	11	9	37	-	37	51	52	25	7	11	3	97	326
VA Polytech Inst&St U	229	17	4	13	9	12	3	53	30	23	21	10	104	4	13	31	107	336
NC State U-Raleigh	227	19	6	13	3	12	1	76	43	33	14	7	95	7	17	16	29	256
Colorado, U-Boulder	223	49	26	23	18	16	10	27	-	27	29	14	60	8	16	6	75	298
Southern Calif, U of	216	26	5	21	1	1	12	25	-	25	33	40	78	5	34	2	206	422
Mass, U of-Amherst	212	34	11	23	6	11	15	40	13	27	41	19	46	13	7	6	188	400
Yale University/CT	202	39	20	19	4	8	6	66	5	61	52	13	14	3	6	4	142	344
Rutgers Univ/NJ	201	17	4	13	8	12	3	66	19	47	27	10	58	9	10	9	103	304
Chicago, Univ of/IL	200	45	22	23	7	14	2	41	-	41	75	16	-	-	-	-	117	317
Johns Hopkins U/MD	199	24	15	9	6	10	2	75	-	75	35	7	40	5	8	3	86	285
NC, U of-Chapel Hill	189	46	10	36	8	11	7	61	-	61	26	26	4	-	-	-	147	336
Calif, U-San Diego	189	32	13	19	24	18	5	36	-	36	32	16	26	1	11	-	21	210
SUNY at Buffalo	184	30	5	25	1	8	4	38	-	38	25	29	49	10	8	11	88	272
SUNY at Stony Brook	182	45	21	24	8	18	2	52	-	52	25	16	16	-	2	7	64	246
Princeton Univ/NJ	179	33	23	10	15	10	11	19	-	19	42	7	42	12	14	4	65	244
Colorado State Univ	173	23	1	22	8	3	-	67	31	36	15	15	42	1	6	5	25	198
New York University	170	19	9	10	1	20	17	31	-	31	37	44	1	-	-	-	257	427
Virginia, Univ of	167	24	9	15	4	19	2	30	-	30	26	27	35	8	7	2	125	292
Georgia, Univ of	165	15	3	12	3	3	-	89	30	59	26	29	-	-	-	-	167	332
Connecticut, Univ of	160	24	8	16	1	12	5	43	-	43	34	19	22	3	3	1	68	228
Pittsburgh, Univ of	159	30	4	26	2	3	6	30	-	30	32	26	30	9	4	4	182	341
Iowa, University of	156	27	9	18	4	12	6	41	-	41	14	7	45	2	7	16	203	359
Calif Inst of Tech	154	49	32	17	14	9	6	22	-	22	4	-	50	11	11	6	-	154
Duke University/NC	153	21	7	14	4	11	8	45	2	43	26	8	30	-	11	6	51	204
Georgia Inst of Tech	149	19	11	8	5	1	12	6	-	6	-	6	100	8	30	17	4	153
Indiana U-Bloomington	145	40	16	24	6	3	2	34	-	34	46	14	-	-	-	-	215	360
Illinois, U-Chicago	145	22	9	13	2	5	6	41	-	41	20	11	38	3	8	17	55	200
Cincinnati, U of/OH	144	34	6	28	2	1	4	27	-	27	9	16	51	8	8	12	82	226
Utah, Univ of	144	28	5	23	8	6	7	19	-	19	18	12	46	3	4	8	55	199
Boston University/MA	143	20	15	5	2	7	3	51	-	51	29	24	7	-	1	-	112	255
Carnegie Mellon U/PA	143	16	10	6	-	9	22	8	-	8	12	6	70	9	21	3	32	175
Tenn, U-Knoxville	141	20	7	13	2	3	1	35	8	27	19	23	38	6	7	5	75	216
Arizona State Univ	141	27	12	15	8	3	6	11	-	11	22	23	41	3	15	7	85	226
Calif, U-Santa Barbara	141	30	14	16	11	5	2	21	-	21	31	16	25	5	6	4	45	186
Case Western Rsrve/OH	136	29	10	19	-	3	4	27	-	27	9	9	55	5	6	8	38	174
LA St U & A&M Coll	136	26	7	19	6	6	5	44	22	22	15	14	20	7	2	1	56	192
Rochester, U of/NY	134	38	20	18	3	8	6	30	-	30	17	14	18	5	10	-	60	194
Washington State U	132	8	5	3	6	4	2	49	21	28	24	16	23	5	4	4	40	172
Oregon State Univ	132	15	1	14	14	4	3	58	37	21	8	1	29	-	11	9	37	169
Rensselaer Poly Ins/NY	125	21	9	12	5	4	6	4	-	4	6	-	79	10	20	18	11	136
Missouri, U-Columbia	123	12	6	6	3	5	-	39	19	20	19	31	14	3	3	4	89	212
South Carolina, U of	121	23	3	20	21	6	2	31	-	31	13	13	12	3	4	1	125	246
Kentucky, Univ of	120	9	2	7	2	6	-	48	19	29	25	14	16	-	7	3	62	182
Brown University/RI	117	22	11	11	10	16	11	23	-	23	22	4	9	2	2	2	56	173
Vanderbilt Univ/TN	116	14	7	7	-	5	4	32	-	32	8	30	23	2	7	3	39	155
Washington Univ/MO	115	19	9	10	6	9	3	35	-	35	14	8	21	3	5	1	23	138
Kansas, Univ of	114	15	2	13	2	1	3	32	-	32	12	33	16	2	-	2	108	222
Syracuse Univ/NY	112	15	7	8	1	3	6	11	-	11	24	12	40	8	17	1	83	195
Wayne State Univ/MI	103	16	-	16	-	5	3	27	-	27	7	29	16	2	3	2	99	202
Florida State Univ	101	10	3	7	8	6	7	16	-	16	33	19	2	2	-	-	156	257
Calif, U-Irvine	101	22	10	12	-	1	16	19	-	19	14	7	22	-	14	4	26	127
Hawaii, Univ of	101	6	4	2	8	2	1	35	8	27	39	8	2	-	2	-	42	143
Delaware, Univ of	100	21	11	10	8	3	1	8	1	7	15	7	37	13	6	9	33	133
Oklahoma State Univ	100	10	3	7	1	-	2	22	10	12	15	24	26	6	4	9	106	206
Temple University/PA	97	11	8	3	-	9	1	20	-	20	16	40	-	-	-	-	155	252

See footnotes at end of table.

Table 10. Institutions conferring science and engineering (S&E) doctorates, by sex and major field: 1991--continued

Sex and institution(1)	Total S&E	Major field																
		Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(2)				Non-S&E (3)	Total all fields
		Sub-total	Phys &astr	Chem-istry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
TOTAL, MALE AND FEMALE																		
Nebraska, U-Lincoln	97	5	2	3	2	3	5	47	27	20	11	18	6	-	-	1	118	215
U S Internatl U/CA	94	-	-	-	-	-	-	-	-	-	-	94	-	-	-	-	61	155
Geo Washington U/DC	88	-	-	-	2	1	7	12	-	12	17	11	38	-	6	2	61	149
New Mexico, Univ of	88	19	10	9	4	5	2	17	-	17	8	16	17	-	3	4	63	151
Auburn University/AL	87	11	4	7	1	6	2	26	14	12	6	13	22	5	3	4	38	125
Houston, U of/TX	87	19	9	10	4	1	4	9	-	9	5	24	21	6	4	4	60	147
Rice University/TX	86	17	6	11	5	12	4	2	-	2	8	5	33	10	7	9	18	104
Oklahoma, U of	84	9	2	7	9	2	5	18	-	18	7	10	24	5	5	6	61	145
Rhode Island, U of	83	10	2	8	15	3	-	22	5	17	2	14	17	1	6	6	11	94
Lehigh University/PA	83	14	7	7	1	5	-	5	-	5	2	7	49	12	5	6	18	101
Notre Dame, U of/IN	83	25	9	16	-	8	-	10	-	10	8	7	25	5	9	5	18	101
Kansas State Univ	82	12	5	7	-	6	2	43	27	16	4	2	13	1	1	2	54	136
Oregon, Univ of	81	17	7	10	1	3	1	18	-	18	20	21	-	-	-	-	115	196
Texas Tech Univ	80	10	4	6	6	3	2	14	6	8	3	24	18	1	5	-	64	144
Calif, U-Riverside	77	23	13	10	1	7	-	33	14	19	6	7	-	-	-	-	13	90
Illinois Inst Tech	76	5	3	2	-	1	19	3	-	3	-	16	32	6	12	2	5	81
Miami, Univ of/FL	73	7	3	4	7	2	-	21	-	21	5	21	10	-	2	4	39	112
Akron, U of/OH	71	30	2	28	-	-	-	5	-	5	8	14	14	1	-	3	29	100
VA Commonwealth U	70	12	1	11	-	-	2	38	-	38	2	16	-	-	-	-	23	93
Cal S Prof Psy-Alhambra	68	-	-	-	-	-	-	-	-	-	-	68	-	-	-	-	-	68
West Virginia Univ	66	3	-	3	1	-	-	23	10	13	6	10	23	3	3	7	49	115
Missouri, U-Rolla	63	13	6	7	1	-	3	-	-	-	-	-	46	3	6	8	-	63
Calif, U-Santa Cruz	62	16	8	8	14	3	2	14	3	11	7	6	-	-	-	-	11	73
Brandeis Univ/MA	61	11	4	7	-	6	2	16	-	16	22	4	-	-	-	-	30	91
Emory Univ/GA	61	14	-	14	-	2	-	31	-	31	5	9	-	-	-	-	51	112
Polytechnic Univ/NY	60	15	1	14	-	4	7	-	-	-	-	-	34	4	17	1	-	60
Calif, U-San Francisco	60	17	-	17	-	-	2	25	-	25	10	3	3	-	-	-	20	80
Tufts University/MA	59	13	4	9	-	1	-	21	-	21	13	5	6	4	1	-	7	66
SUNY at Albany	59	6	3	3	3	3	-	8	-	8	19	20	-	-	-	-	52	111
Wisconsin, U-Milwaukee	59	5	3	2	1	5	-	3	-	3	20	11	14	-	4	3	28	87
Northeastern U/MA	58	13	6	7	-	6	-	7	-	7	11	3	18	3	6	5	7	65
Southern Illinois U	58	4	2	2	3	3	-	15	2	13	12	17	4	-	-	-	104	162
Clemson Univ/SC	58	12	-	12	1	2	-	11	5	6	4	-	28	2	5	3	15	73
Georgetown Univ/DC	56	5	1	4	-	-	-	21	-	21	29	1	-	-	-	-	17	73
Cal S Prof Psy-Alameda	56	-	-	-	-	-	-	-	-	-	-	56	-	-	-	-	-	56
Tulane U of LA	55	5	-	5	-	8	2	16	-	16	7	12	5	2	2	-	36	91
Arkansas, U-Fayettvlle	54	12	8	4	-	-	-	24	11	13	-	10	8	-	2	-	64	118
North Texas, Univ of	53	8	2	6	-	3	3	10	1	9	7	21	1	-	-	-	118	171
Cal S Prof Psy-San Dgo	53	-	-	-	-	-	-	-	-	-	-	53	-	-	-	-	-	53
Brigham Young U/UT	52	12	2	10	-	-	-	8	3	5	6	20	6	4	1	-	42	94
Georgia State Univ	51	5	4	1	-	-	-	7	-	7	7	32	-	-	-	-	81	132
Kent State Univ/OH	50	6	5	1	2	4	-	8	-	8	5	24	1	-	-	-	64	114
Alabama, U-Birminghm	50	3	3	-	-	-	2	30	-	30	-	11	4	-	-	-	45	95
Mississippi State U	50	1	-	1	-	-	1	29	22	7	6	3	10	-	5	-	54	104
Wyoming, Univ of	50	7	-	7	6	9	-	17	6	11	1	5	5	1	2	1	17	67
New Mexico State U	50	11	3	8	1	3	3	19	11	8	-	8	5	-	2	-	13	63
Utah State Univ	50	-	-	-	1	-	-	28	22	6	5	9	7	-	-	-	10	60
Drexel University/PA	49	4	-	4	7	1	-	3	-	3	-	-	34	2	12	12	6	55
Sthrn Methodist U/TX	49	-	-	-	6	2	7	1	-	1	5	-	28	-	14	5	-	49
Cal S Prof Psy-Fresno	49	-	-	-	-	-	-	-	-	-	-	49	-	-	-	-	-	49
Howard University/DC	47	7	2	5	-	-	-	8	-	8	17	10	5	-	3	2	20	67
Texas, U-Arlington	47	8	3	5	-	4	2	1	-	1	3	2	27	-	14	4	21	68
Stevens Inst Tech/NJ	45	8	4	4	-	2	7	-	-	-	1	3	24	1	2	2	-	45
Loyola U Chicago/IL	44	4	-	4	-	-	-	12	-	12	4	24	-	-	-	-	53	97
South Florida, U of	44	4	1	3	2	5	-	10	-	10	-	13	10	2	3	-	35	79
Southern Miss, U of	44	14	-	14	-	-	-	2	-	2	-	27	1	-	-	-	63	107
Texas, U-Dallas	44	11	8	3	5	3	7	5	-	5	8	4	1	-	-	-	13	57
SUNY at Binghamton	43	6	-	6	1	2	2	3	-	3	15	10	4	-	-	-	24	67
St Louis Univ/MO	42	-	-	-	5	2	-	13	-	13	8	14	-	-	-	-	70	112
Vermont, U of	41	5	-	5	-	-	-	21	1	20	-	8	7	-	4	1	7	48
Hofstra Univ/NY	41	-	-	-	-	-	-	-	-	-	-	41	-	-	-	-	23	64
Catholic U Amer/DC	40	9	4	5	-	-	-	2	-	2	6	16	7	-	2	2	58	98
Alabama, Univ of	40	10	3	7	1	2	-	4	-	4	2	9	12	-	1	7	104	144
Miami University/OH	39	8	-	8	3	-	-	13	-	13	-	15	-	-	-	-	27	66
Denver, Univ of/CO	39	2	2	-	-	-	-	1	-	1	18	18	-	-	-	-	42	81
Dartmouth College/NH	37	9	2	7	3	-	-	16	-	16	-	1	8	-	1	1	-	37
Boston College/MA	37	12	7	5	-	-	-	3	-	3	11	11	-	-	-	-	43	80
Mississippi, Univ of	37	10	1	9	-	1	-	1	-	1	3	18	4	1	-	1	68	105
New Sch Soc Rsch/NY	36	-	-	-	-	-	-	-	-	-	16	20	-	-	-	-	2	38
Clarkson Univ/NY	35	7	2	5	-	1	1	3	-	3	-	-	23	6	5	5	-	35
Fordham Univ/NY	34	-	-	-	-	-	-	1	-	1	11	22	-	-	-	-	77	111
Idaho, Univ of	34	4	-	4	4	-	-	16	11	5	-	-	10	4	1	-	26	60
Fielding Inst/CA	34	-	-	-	-	-	-	-	-	-	-	34	-	-	-	-	7	41
Fuller Theol Sem/CA	33	-	-	-	-	-	-	-	-	-	3	30	-	-	-	-	11	44
Ohio University	32	6	4	2	-	1	-	10	-	10	-	10	5	1	4	-	71	103
Tex U Hlth Sci-Houston	32	1	1	-	-	-	-	31	-	31	-	-	-	-	-	-	24	56
Nevada, Univ of	32	6	1	5	9	-	-	6	-	6	-	8	3	-	2	-	3	35
Cornell U Med Coll/NY	31	-	-	-	-	-	-	31	-	31	-	-	-	-	-	-	-	31
Old Dominion Univ/VA	31	1	1	-	3	4	1	6	-	6	2	5	9	-	3	6	4	35
Colorado Sch of Mines	31	1	-	1	12	1	-	-	-	-	5	-	12	3	-	-	1	32

See footnotes at end of table.

Table 10. Institutions conferring science and engineering (S&E) doctorates, by sex and major field: 1991--continued

	Major field																	
		Physical Sciences			Earth/		Comp/	Agric & Biol Sci					Engineering(2)				Non-	Total
Sex and institution(1)	Total S&E	Sub-total	Phys &astr	Chem-istry	atmos/ ocean	Math	info sci	Sub-total	Agri sci	Biol sci	Soc sci	Psych	Sub-total	Chem	Elec	Mech	S&E (3)	all fields
TOTAL, MALE AND FEMALE																		
Yeshiva Einst Med/NY	30	-	-	-	-	-	-	30	-	30	-	-	-	-	-	-	-	30
Northern Illinois U	30	11	-	11	1	1	-	3	-	3	8	6	-	-	-	-	77	107
New Hampshire, U of	29	2	1	1	-	1	-	9	2	7	5	7	5	1	-	-	10	39
North Dakota St Univ	29	5	-	5	-	1	2	18	9	9	-	-	3	-	1	1	-	29
Tex U Swstrn Med Ctr	29	-	-	-	-	-	-	20	-	20	-	6	3	-	-	-	-	29
Maine, U-Orono	28	5	2	3	-	-	-	10	3	7	-	7	6	2	-	-	4	32
Clark University/MA	28	8	2	6	-	-	-	3	-	3	10	7	-	-	-	-	3	31
Toledo, Univ of/OH	28	4	2	2	-	-	-	-	-	-	-	11	13	-	3	4	29	57
Baylor Coll Med/TX	28	-	-	-	-	-	-	28	-	28	-	-	-	-	-	-	-	28
Claremont Grad Sch/CA	28	-	-	-	-	2	1	2	-	2	9	14	-	-	-	-	43	71
Rockefeller Univ/NY	27	2	2	-	-	-	-	25	-	25	-	-	-	-	-	-	-	27
Michigan Tech Univ	27	10	5	5	1	-	-	2	-	2	-	-	14	-	1	5	-	27
Western Michigan U	27	-	-	-	-	9	-	1	-	1	4	13	-	-	-	-	32	59
American Univ/DC	27	4	1	3	-	2	-	-	-	-	14	7	-	-	-	-	17	44
Nova University/FL	27	-	-	-	-	-	15	-	-	-	-	12	-	-	-	-	201	228
Wright Inst-Berkl/CA	27	-	-	-	-	-	-	-	-	-	-	27	-	-	-	-	-	27
Mass, U of-Lowell	26	16	8	8	-	-	-	4	-	4	-	-	6	-	-	1	9	35
Missouri, U-Kans City	26	3	-	3	-	1	-	3	-	3	-	19	-	-	-	-	24	50
Louisville, U of/KY	26	2	-	2	-	-	1	13	-	13	-	7	3	1	-	-	16	42
Memphis State U/TN	26	1	-	1	-	1	1	3	-	3	-	19	1	-	1	-	54	80
Texas Womans Univ	26	-	-	-	-	-	-	5	1	4	6	15	-	-	-	-	62	88
Marquette Univ/WI	25	7	-	7	-	1	-	4	-	4	-	4	9	-	2	2	36	61
St Johns U-Queens/NY	24	-	-	-	-	-	-	2	-	2	-	22	-	-	-	-	14	38
Bowling Green St U/OH	24	-	-	-	-	5	-	5	-	5	4	10	-	-	-	-	41	65
Maryland, U, Sch Med	24	3	-	3	-	-	-	21	-	21	-	-	-	-	-	-	19	43
Maryland, U-Balt Cnty	24	-	-	-	-	2	3	6	-	6	4	7	2	1	1	-	3	27
Montana State Univ	24	12	5	7	1	-	-	6	-	6	-	-	5	1	2	1	10	34
SUNY Hlth Sci-Brooklyn	23	-	-	-	-	-	-	23	-	23	-	-	-	-	-	-	-	23
Ball State Univ/IN	23	-	-	-	-	-	-	-	-	-	4	19	-	-	-	-	41	64
Southwestern LA, U of	23	-	-	-	-	7	12	1	-	1	-	-	3	-	-	-	12	35
Adelphi Univ/NY	22	-	-	-	-	1	-	-	-	-	-	21	-	-	-	-	17	39
George Mason U/VA	22	-	-	-	-	-	6	1	-	1	8	7	-	-	-	-	13	35
Worcester Poly Inst/MA	21	2	2	-	-	-	-	2	-	2	-	-	17	3	5	2	-	21
Alabama, U-Huntsville	21	5	5	-	-	-	3	-	-	-	-	-	13	-	2	3	-	21
SUNY Envir Sci Frstry	19	1	-	1	3	-	-	14	8	6	-	-	1	-	-	-	1	20
Montana, Univ of	19	-	-	-	-	-	-	8	3	5	2	9	-	-	-	-	3	22
Calif Inst Integral Stds	19	-	-	-	-	-	-	-	-	-	-	19	-	-	-	-	-	19
Clark Atlanta U/GA	18	-	-	-	-	-	-	3	-	3	4	11	-	-	-	-	31	49
Texas U Med Br-Galvstn	18	-	-	-	-	-	-	18	-	18	-	-	-	-	-	-	1	19
Fairleigh Dickn U/NJ	17	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	17
Hlth Sci U-Chicgo Med	17	-	-	-	-	-	-	5	-	5	-	12	-	-	-	-	-	17
Med Univ South Carolina	17	3	-	3	-	-	-	14	-	14	-	-	-	-	-	-	1	18
Saybrook Inst/CA	17	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	17
Rutgers U-Newark/NJ	16	3	-	3	-	-	-	5	-	5	6	2	-	-	-	-	3	19
Depaul University/IL	16	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	1	17
Wake Forest Univ/NC	16	-	-	-	-	-	-	16	-	16	-	-	-	-	-	-	-	16
N Mexico Mining&Tech	16	2	1	1	7	-	1	-	-	-	-	-	6	-	-	-	-	16
Loma Linda Univ/CA	16	-	-	-	-	-	-	16	-	16	-	-	-	-	-	-	5	21
Alfred University/NY	15	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	15
Yeshiva Univ/NY	15	-	-	-	-	-	-		-	-	-	15	-	-	-	-	9	24
Walden University/MN	15	-	-	-	-	-	-	-	-	-	13	2	-	-	-	-	46	61
Albany Med Coll/NY	14	-	-	-	-	-	-	14	-	14	-	-	-	-	-	-	-	14
Seton Hall Univ/NJ	14	7	-	7	-	-	-	-	-	-	-	7	-	-	-	-	11	25
Med Coll Ohio at Toledo	14	-	-	-	-	-	-	14	-	14	-	-	-	-	-	-	1	15
Indiana State Univ	14	-	-	-	-	-	-	4	-	4	-	10	-	-	-	-	12	26
Missouri, U-St Louis	14	4	-	4	-	-	-	-	-	-	-	10	-	-	-	-	14	28
North Dakota, U of	14	1	-	1	-	-	-	3	-	3	-	10	-	-	-	-	20	34
Uniform Svc U Hlth/MD	14	-	-	-	-	-	-	12	-	12	-	2	-	-	-	-	-	14
Tulsa, Univ of/OK	14	-	-	-	-	-	-	-	-	-	-	4	10	5	-	1	13	27
Oregon Graduate Inst	14	4	2	2	2	-	2	1	-	1	-	-	5	-	3	-	-	14
Pacific Grad Psych/CA	14	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	14
Bryn Mawr Coll/PA	13	3	2	1	1	-	-	-	-	-	2	7	-	-	-	-	20	33
NC, U of-Greensboro	13	-	-	-	-	-	-	3	-	3	2	8	-	-	-	-	67	80
LA St U, Sch Med-N Orl	13	-	-	-	-	-	-	13	-	13	-	-	-	-	-	-	5	18
Portland State U/OR	13	4	1	3	1	-	-	1	-	1	5	-	2	-	1	-	7	20
New York Medical Coll	12	-	-	-	-	-	-	12	-	12	-	-	-	-	-	-	-	12
Med Coll of Wisconsin	12	1	1	-	-	-	-	11	-	11	-	-	-	-	-	-	-	12
South Dakota, U of	12	-	-	-	-	-	-	5	-	5	-	7	-	-	-	-	21	33
William&Mary, Coll/VA	12	6	6	-	5	-	-	1	-	1	-	-	-	-	-	-	26	38
Tenn, U-Hlth Sci Ctr	12	1	-	1	-	-	-	11	-	11	-	-	-	-	-	-	-	12
New Orleans, U of/LA	12	7	-	7	-	-	-	-	-	-	2	3	-	-	-	-	11	23
Northern Arizona U	12	-	-	-	-	-	-	8	-	8	4	-	-	-	-	-	47	59
Puerto Rico, U-Rio Piedrs	12	5	-	5	-	-	-	2	-	2	1	4	-	-	-	-	11	23
Long Isl U-Brooklyn/NY	11	-	-	-	1	-	-	-	-	-	-	10	-	-	-	-	-	11
Florida Inst Tech	11	-	-	-	1	-	-	1	-	1	-	2	7	-	4	1	5	16
New Jersey Inst Tech	10	-	-	-	-	-	-	-	-	-	-	-	10	4	2	3	-	10
Thomas Jefferson U/PA	10	-	-	-	-	-	-	10	-	10	-	-	-	-	-	-	-	10
Illinois St U-Normal	10	-	-	-	-	1	-	9	-	9	-	-	-	-	-	-	29	39
Detroit Mercy, U/MI	10	1	-	1	-	-	-	-	-	-	-	7	2	-	-	1	-	10
Wichita St Univ/KS	10	2	-	2	-	-	-	1	-	1	-	-	7	-	2	2	3	13

See footnotes at end of table.

Table 10. Institutions conferring science and engineering (S&E) doctorates, by sex and major field: 1991--continued

Sex and institution(1)	Total S&E	Major field Physical Sciences Sub-total	Phys &astr	Chem-istry	Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci Sub-total	Agri sci	Biol sci	Soc sci	Psych	Engineering(2) Sub-total	Chem	Elec	Mech	Non-S&E (3)	Total all fields
TOTAL, MALE AND FEMALE																		
Medical Coll of Georgia	10	-	-	-	-	-	-	10	-	10	-	-	-	-	-	-	2	12
Idaho State Univ	10	-	-	-	-	1	-	6	-	6	3	-	-	-	-	-	6	16
Oregon Health Sci U	10	-	-	-	-	-	-	10	-	10	-	-	-	-	-	-	5	15
Rand Grad School/CA	10	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	10
Alaska, Univ of	10	2	2	-	6	-	-	2	1	1	-	-	-	-	-	-	-	10
Wesleyan Univ/CT	9	3	-	3	-	4	-	2	-	2	-	-	-	-	-	-	2	11
N.J. Med School-Newark	9	-	-	-	-	-	-	9	-	9	-	-	-	-	-	-	-	9
Duquesne Univ/PA	9	-	-	-	-	-	-	1	-	1	-	8	-	-	-	-	9	18
Med Coll of Pennsylvania	9	-	-	-	-	-	-	9	-	9	-	-	-	-	-	-	-	9
Cleveland St Univ/OH	9	7	-	7	-	-	-	2	-	2	-	-	-	-	-	-	2	11
Rush University/IL	9	-	-	-	-	-	-	9	-	9	-	-	-	-	-	-	14	23
Central Florida, U/FL	9	-	-	-	-	-	1	-	-	-	-	-	8	-	1	-	11	20
Texas Christian Univ	9	3	1	2	-	-	-	-	-	-	-	6	-	-	-	-	8	17
Wright State Univ/OH	8	-	-	-	-	-	-	8	-	8	-	-	-	-	-	-	-	8
Mayo Grad Sch/MN	8	-	-	-	-	-	-	8	-	8	-	-	-	-	-	-	1	9
Mass, U Med Sch-Worcstr	7	-	-	-	-	-	-	7	-	7	-	-	-	-	-	-	2	9
Oakland Univ/MI	7	2	2	-	-	-	-	2	-	2	-	-	3	-	-	-	2	9
S Dakota Sch Mine&Tech	7	-	-	-	1	-	-	-	-	-	-	-	6	-	-	-	-	7
South Dakota State U	7	-	-	-	-	-	-	7	6	1	-	-	-	-	-	-	-	7
E Carolina U-Med/NC	7	-	-	-	-	-	-	7	-	7	-	-	-	-	-	-	-	7
LSU, Sch Med-Shreveport	7	-	-	-	-	-	-	7	-	7	-	-	-	-	-	-	-	7
Sam Houston St U/TX	7	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	7
Northern Colorado, U	7	-	-	-	-	4	-	1	-	1	-	2	-	-	-	-	36	43
Naval Postgrad Sch/CA	7	1	1	-	1	2	1	-	-	-	-	-	2	-	2	-	-	7
Air Force Inst Tech/OH	6	-	-	-	-	1	-	-	-	-	-	-	5	-	4	-	-	6
Dayton, U of/OH	6	-	-	-	-	-	-	1	-	1	-	-	5	-	2	-	-	6
East Tenn State Univ	6	-	-	-	-	-	-	6	-	6	-	-	-	-	-	-	5	11
Caribbean Col Adv Std/PR	6	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	6
Florida Atlantic U	5	-	-	-	-	-	-	-	-	-	-	2	3	-	1	-	13	18
Middle Tenn State U	5	2	-	2	-	-	-	-	-	-	3	-	-	-	-	-	11	16
Arkansas U-Med Sci	5	-	-	-	-	-	-	5	-	5	-	-	-	-	-	-	-	5
Baylor Univ/TX	5	5	1	4	-	-	-	-	-	-	-	-	-	-	-	-	19	24
S F Austin St U/TX	5	-	-	-	-	-	-	5	5	-	-	-	-	-	-	-	-	5
Tex U Hlth Sci-San Anton	5	-	-	-	-	-	-	5	-	5	-	-	-	-	-	-	-	5
SUNY Hlth Sci-Syracuse	4	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	-	4
Tennessee Tech U	4	-	-	-	-	-	-	-	-	-	-	-	4	-	-	3	-	4
George Peabody Coll/TN	4	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	62	66
Mississippi U-Med Ctr	4	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	-	4
Biola Univ/CA	4	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	2	6
Hahnemann Univ/PA	3	-	-	-	-	-	-	2	-	2	-	1	-	-	-	-	1	4
Creighton Univ/NE	3	-	-	-	-	-	-	3	-	3	-	-	-	-	-	-	1	4
Meharry Med Coll/TN	3	-	-	-	-	-	-	3	-	3	-	-	-	-	-	-	-	3
Louisiana Tech Univ	3	-	-	-	-	-	-	-	-	-	-	-	3	1	-	1	7	10
NE Louisiana Univ	3	1	-	1	-	-	-	2	-	2	-	-	-	-	-	-	3	6
East Texas State U	3	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	48	51
Pacific, U of/CA	3	1	-	1	-	-	-	2	-	2	-	-	-	-	-	-	12	15
Indiana Univ of PA	2	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	24	26
Phila Coll Pharm&Sci/PA	2	1	-	1	-	-	-	1	-	1	-	-	-	-	-	-	6	8
Villanova Univ/PA	2	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Northern Iowa, U of	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	9	11
Inst of Paper Sci/GA	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2
Florida Internat'l U	2	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	12	14
So Bapt Theol Sem/KY	2	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	38	40
South Alabama, U	2	-	-	-	-	-	-	2	-	2	-	-	-	-	-	-	-	2
Dallas, Univ of/TX	2	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	1	3
Texas, U-El Paso	2	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2
Mass, U-Boston	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
Drew University/NJ	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	20	21
Annenberg Res Inst/PA	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	4	5
Lamar University/TX	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	1

See footnotes at end of table.

Table 10. Institutions conferring science and engineering (S&E) doctorates, by sex and major field: 1991--continued

Sex and institution(1)	Total S&E	Physical Sciences: Sub-total	Physical Sciences: Phys &astr	Physical Sciences: Chem-istry	Earth/atmos/ocean	Math	Comp/info sci	Agric & Biol Sci: Sub-total	Agric & Biol Sci: Agri sci	Agric & Biol Sci: Biol sci	Soc sci	Psych	Engineering(2): Sub-total	Engineering(2): Chem	Engineering(2): Elec	Engineering(2): Mech	Non-S&E (3)	Total all fields
MALE																		
Calif, U-Berkeley	442	83	37	46	12	46	17	65	10	55	69	7	143	17	39	34	95	537
Ill, U, Urbana-Champgn	423	82	40	42	9	14	28	87	39	48	42	19	142	10	55	18	117	540
Mass Inst Technology	377	70	42	28	18	26	6	20	-	20	40	1	196	26	18	33	26	403
Wisconsin, U-Madison	360	55	32	23	13	21	15	106	43	63	55	10	85	12	18	18	127	487
Minnesota, U-Minneapls	342	44	15	29	5	25	18	87	43	44	58	26	79	18	18	18	104	446
Stanford Univ/CA	337	50	30	20	19	11	20	26	-	26	30	11	170	7	58	41	60	397
Texas, U-Austin	336	65	38	27	15	7	27	31	-	31	37	19	135	27	20	7	120	456
Michigan, Univ of	332	51	23	28	10	15	11	52	6	46	35	10	148	10	23	20	109	441
Cornell Univ/NY	305	49	36	13	5	13	9	79	29	50	49	4	97	5	23	21	48	353
Ohio State Univ	298	47	14	33	4	18	21	71	16	55	43	16	78	4	18	15	123	421
Purdue University/IN	276	38	9	29	7	13	11	53	15	38	24	8	122	18	39	16	41	317
Texas A&M University	272	35	6	29	18	3	3	88	55	33	21	8	96	14	19	17	52	324
Calif, U-Los Angeles	269	51	33	18	13	23	21	41	-	41	47	10	63	2	18	16	81	350
Penn State Univ	255	47	17	30	23	12	10	36	9	27	18	10	99	11	17	16	56	311
Washington, U of	244	43	17	26	24	10	11	58	15	43	25	8	65	12	18	5	55	299
Arizona, Univ of	231	55	32	23	24	8	7	61	21	40	20	8	48	7	11	7	48	279
Florida, Univ of	221	38	9	29	3	4	5	63	29	34	24	13	71	9	25	11	46	267
Calif, U-Davis	219	30	7	23	6	6	5	123	14	109	9	-	40	1	4	7	16	235
Harvard Univ/MA	212	51	28	23	6	18	9	50	-	50	71	5	2	-	-	-	123	335
Maryland, Univ of	194	42	29	13	7	20	14	33	9	24	18	9	51	6	25	7	63	257
Pennsylvania, U of	192	31	17	14	1	7	11	34	-	34	61	5	42	5	4	6	82	274
Iowa State Univ	190	54	13	41	5	12	6	47	22	25	18	4	44	2	3	21	31	221
VA Polytech Inst&St U	183	14	4	10	4	9	3	36	23	13	12	3	102	4	13	30	55	238
NC State U-Raleigh	182	17	6	11	2	10	1	53	33	20	10	1	88	6	16	13	15	197
Michigan State Univ	180	32	14	18	2	9	3	64	30	34	30	14	26	1	9	7	80	260
Colorado, U-Boulder	177	42	23	19	12	12	8	19	-	19	20	8	56	6	16	6	30	207
Columbia Univ/NY	165	33	21	12	10	9	6	24	-	24	27	7	49	2	14	13	89	254
Northwestern Univ/IL	154	18	7	11	5	5	7	19	-	19	12	10	78	5	12	15	48	202
Southern Calif, U of	153	22	5	17	1	-	9	15	-	15	24	10	72	4	33	2	112	265
Mass, U of-Amherst	152	28	11	17	4	9	12	28	10	18	26	8	37	9	7	5	87	239
CUNY-Grad Sch&U Ctr	150	30	11	19	1	9	5	21	-	21	38	22	24	7	10	3	57	207
Chicago, Univ of/IL	140	33	19	14	5	12	2	34	-	34	46	8	-	-	-	-	68	208
Calif Inst of Tech	140	46	31	15	12	8	5	20	-	20	4	-	45	11	8	6	-	140
SUNY at Buffalo	139	24	4	20	-	7	4	30	-	30	15	11	48	10	8	11	56	195
Princeton Univ/NJ	138	29	23	6	12	8	9	10	-	10	30	4	36	10	13	2	32	170
Rutgers Univ/NJ	138	15	4	11	6	9	3	42	12	30	14	3	46	7	10	7	40	178
Yale University/CT	134	33	18	15	4	5	6	38	5	33	30	5	13	3	6	3	74	208
Calif, U-San Diego	134	29	12	17	20	12	4	26	-	26	17	4	22	-	11	-	15	149
Georgia Inst Tech	133	14	9	5	5	1	10	4	-	4	-	4	95	7	29	17	4	137
Colorado State Univ	133	17	1	16	7	2	-	52	27	25	14	5	36	1	6	4	10	143
Iowa, University of	122	23	9	14	4	8	5	24	-	24	12	2	44	2	6	16	109	231
Johns Hopkins U/MD	122	19	14	5	2	8	2	38	-	38	22	4	27	3	6	2	40	162
Carnegie Mellon U/PA	121	15	9	6	-	6	22	3	-	3	8	5	62	7	20	2	25	146
Duke University/NC	118	18	6	12	4	10	8	27	2	25	21	3	27	-	11	5	38	156
Virginia, Univ of	117	20	9	11	4	15	1	20	-	20	19	8	30	6	6	2	54	171
Georgia, Univ of	117	14	3	11	2	3	-	64	25	39	22	12	-	-	-	-	83	200
SUNY at Stony Brook	116	34	18	16	2	14	2	28	-	28	15	6	15	-	2	7	34	150
Oregon State Univ	115	11	-	11	13	3	3	50	35	15	6	1	28	-	10	9	26	141
Utah, Univ of	113	22	5	17	7	4	7	11	-	11	13	5	44	3	4	7	33	146
Connecticut, Univ of	111	20	7	13	1	10	4	28	-	28	20	11	17	2	2	1	26	137
Rensselaer Poly Ins/NY	111	17	7	10	5	4	5	2	-	2	3	-	75	8	20	18	6	117
Arizona State Univ	110	24	10	14	8	3	5	8	-	8	12	10	40	3	14	7	43	153
New York University	109	15	9	6	1	17	15	17	-	17	24	19	1	-	-	-	104	213
Pittsburgh, Univ of	109	27	4	23	1	2	6	15	-	15	25	5	28	8	4	4	90	199
Calif, U-Santa Barbara	107	26	14	12	6	4	2	16	-	16	22	7	24	4	6	4	29	136
NC, U of-Chapel Hill	105	29	7	22	6	7	5	32	-	32	13	9	4	-	-	-	65	170
Illinois, U-Chicago	102	18	9	9	1	5	6	24	-	24	11	2	35	3	7	16	23	125
Washington State U	101	7	4	3	6	2	2	42	21	21	17	5	20	5	3	3	20	121
Cincinnati, U of/OH	100	23	4	19	2	-	2	15	-	15	5	4	49	7	8	12	45	145
Case Western Rsrve/OH	99	26	9	17	-	3	3	15	-	15	2	3	47	4	6	7	13	112
Indiana U-Bloomington	95	31	13	18	4	3	2	22	-	22	26	7	-	-		-	127	222
Tenn, U-Knoxville	94	15	5	10	1	3	1	20	6	14	11	7	36	5	7	5	36	130
LA St Univ & A&M Coll	94	20	6	14	6	2	5	31	20	11	6	5	19	7	2	1	29	123
South Carolina, U of	92	21	3	18	18	4	2	24	-	24	9	3	11	3	4	1	50	142
Boston University/MA	90	12	9	3	2	5	3	28	-	28	22	12	6		1	-	49	139
Rochester, U of/NY	86	27	17	10	3	6	6	14	-	14	7	7	16	5	8	-	23	109
Washington Univ/MO	86	14		5	5	8	3	22	-	22	12	1	21	3	5	1	12	98
Kentucky, Univ of	85	8	2	6	2	6	-	36	16	20	14	4	15	-	7	3	35	120
Kansas, Univ of	83	13	2	11	2	1	3	24	-	24	8	16	16	2	-	2	44	127
Brown University/RI	79	17	10	7	7	11	8	15	-	15	10	2	9	2	2	2	27	106
Syracuse Univ/NY	79	12	4	8	1	3	4	3	-	3	12	5	39	8	16	1	47	126
Missouri, U-Columbia	77	9	5	4	3	4	-	25	15	10	16	7	13	2	3	4	50	127
Delaware, Univ of	75	18	9	9	6	3	1	5	1	4	6	3	33	12	5	8	19	94
Calif, U-Irvine	75	18	9	9	-	1	12	10	-	10	9	5	20		13	3	10	85
Hawaii, Univ of	75	6	4	2	7	2	1	23	6	17	29	5	2	-	2	-	13	88
Oklahoma State Univ	73	10	3	7	1	-	2	16	8	8	11	10	23	6	4	7	48	121
Vanderbilt Univ/TN	71	11	6	5	-	5	3	16	-	16	6	9	21	2	7	3	25	96
Wayne State Univ/MI	70	13	-	13	-	4	3	19	-	15	4	11	16	2	3	2	36	106
Nebraska, U-Lincoln	69	5	2	3	2	3	5	34	19	15	7	8	5	-	-	1	50	119
Auburn University/AL	69	10	4	6	1	6	2	21	12	9	5	3	21	5	3	4	14	83

See footnotes at end of table.

Table 10. Institutions conferring science and engineering (S&E) doctorates, by sex and major field: 1991--continued

Sex and institution(1)	Total S&E	Major field															Non-S&E (3)	Total all fields
		Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(2)					
		Sub-total	Phys &astr	Chem-istry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
MALE																		
New Mexico, Univ of	69	16	10	6	4	5	2	13	-	13	5	8	16	-	3	3	29	98
Rice University/TX	68	12	4	8	5	11	3	2	-	2	5	1	29	8	6	8	6	74
Lehigh University/PA	67	11	6	5	1	4	-	3	-	3	-	3	45	11	5	5	4	71
Florida State Univ	67	7	2	5	7	6	5	10	-	10	26	4	2	2	-	-	73	140
Kansas State Univ	66	11	5	6	-	5	2	32	21	11	4	1	11	1	1	1	25	91
Houston, U of/TX	66	17	8	9	3	1	4	9	-	9	4	9	19	5	3	4	18	84
Illinois Inst Tech	63	5	3	2	-	1	15	2	-	2	-	8	32	6	12	2	4	67
Temple University/PA	61	10	7	3	-	8	-	15	-	15	12	16	-	-	-	-	76	137
Oklahoma, U of	61	5	-	5	6	2	5	11	-	11	5	5	22	5	5	5	27	88
Geo Washington U/DC	60	-	-	-	1	-	6	6	-	6	11	1	35	-	6	2	26	86
Notre Dame, U of/IN	59	19	8	11	-	6	-	5	-	5	7	2	20	4	7	3	9	68
Missouri, U-Rolla	59	12	6	6	1	-	3	-	-	-	-	-	43	3	6	8	-	59
Calif, U-Riverside	58	22	13	9	-	3	-	28	12	16	2	3	-	-	-	-	6	64
Polytechnic Univ/NY	56	14	1	13	-	3	6	-	-	-	-	-	33	4	17	1	-	56
Texas Tech Univ	55	7	3	4	4	2	2	12	5	7	1	10	17	1	5	-	35	90
Akron, U of/OH	54	25	1	24	-	-	-	4	-	4	6	8	11	1	-	2	20	74
Rhode Island, U of	52	7	1	6	6	3	-	12	3	9	1	7	16	1	5	6	7	59
Clemson Univ/SC	50	11	-	11	-	2	-	7	4	3	4	-	26	2	4	3	10	60
Oregon, Univ of	48	15	7	8	1	2	1	9	-	9	13	7	-	-	-	-	65	113
West Virginia Univ	47	3	-	3	1	-	-	15	7	8	5	2	21	2	3	6	25	72
Miami, Univ of/FL	47	4	3	1	4	2	-	15	-	15	4	8	10	-	2	4	10	57
U S Internatl U/CA	47	-	-	-	-	-	-	-	-	-	-	47	-	-	-	-	40	87
Drexel University/PA	45	4	-	4	6	1	-	1	-	1	-	-	33	2	11	12	4	49
Mississippi State U	43	1	-	1	-	-	1	25	20	5	5	1	10	-	5	-	30	73
Wisconsin, U-Milwaukee	42	5	3	2	1	5	-	3	-	3	10	5	13	-	3	3	10	52
Texas, U-Arlington	42	7	2	5	-	3	-	1	-	1	3	1	27	-	14	4	10	52
Calif, U-Santa Cruz	42	11	6	5	10	2	2	8	2	6	7	2	-	-	-	-	6	48
Stevens Inst Tech/NJ	41	6	3	3	-	2	7	-	-	-	1	2	23	1	2	2	-	41
Northeastern U/MA	40	10	5	5	-	5	-	2	-	2	5	1	17	3	5	5	6	46
Wyoming, Univ of	40	5	-	5	6	7	-	14	6	8	1	2	5	1	2	1	7	47
Utah State Univ	40	-	-	-	1	-	-	25	21	4	2	6	6	-	-	-	8	48
Southern Illinois U	39	4	2	2	3	3	-	11	2	9	7	7	4	-	-	-	62	101
Arkansas, U-Fayettvlle	39	9	7	2	-	-	-	19	10	9	-	4	7	-	1	-	39	78
Sthrn Methodist U/TX	38	-	-	-	3	-	5	-	-	-	4	-	26	-	13	5	-	38
New Mexico State U	38	10	3	7	1	3	2	16	10	6	-	2	4	-	2	-	5	43
Brandeis Univ/MA	37	9	4	5	-	5	2	10	-	10	10	1	-	-	-	-	13	50
North Texas, Univ of	37	8	2	6	-	3	2	9	1	8	4	10	1	-	-	-	64	101
Brigham Young U/UT	37	10	2	8	-	-	-	5	2	3	3	13	6	4	1	-	29	66
SUNY at Albany	35	5	3	2	3	3	-	5	-	5	10	9	-	-	-	-	23	58
Howard University/DC	35	6	2	4	-	-	-	4	-	4	16	4	5	-	3	2	8	43
Tufts University/MA	34	9	3	6	-	-	-	10	-	10	10	2	3	2	1	-	2	36
Emory Univ/GA	34	11	-	11	-	2	-	15	-	15	2	4	-	-	-	-	27	61
Alabama, U-Birminghm	34	3	3	-	-	-	1	21	-	21	-	5	4	-	-	-	9	43
Texas, U-Dallas	33	10	7	3	4	3	7	2	-	2	6	-	1	-	-	-	10	43
Tulane U of LA	32	4	-	4	-	4	-	8	-	8	5	7	4	1	2	-	18	50
Calif, U-San Francisco	32	10	-	10	-	-	2	16	-	16	-	1	3	-	-	-	1	33
Clarkson Univ/NY	31	6	1	5	-	1	1	1	-	1	-	-	22	5	5	5	-	31
VA Commonwealth U	31	10	1	9	-	-	1	18	-	18	-	2	-	-	-	-	14	45
Idaho, Univ of	30	4	-	4	4	-	-	12	8	4	-	-	10	4	1	-	10	40
Kent State Univ/OH	29	6	5	1	2	4	-	7	-	7	2	7	1	-	-	-	32	61
Alabama, Univ of	29	9	3	6	1	2	-	3	-	3	2	3	9	-	1	6	52	81
SUNY at Binghamton	28	5	-	5	-	1	2	3	-	3	10	4	3	-	-	-	12	40
Georgetown Univ/DC	28	4	1	3	-	-	-	9	-	9	15	-	-	-	-	-	6	34
Dartmouth College/NH	26	8	2	6	2	-	-	9	-	9	-	-	7	-	1	1	-	26
Southern Miss, U of	26	12	-	12	-	-	-	1	-	1	-	12	1	-	-	-	37	63
Cal S Prof Psy-Fresno	26	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	26
Vermont, U of	25	3	-	3	-	-	-	14	1	13	-	1	7	-	4	1	3	28
Cornell U Med Coll/NY	25	-	-	-	-	-	-	25	-	25	-	-	-	-	-	-	-	25
South Florida, U of	25	2	-	2	2	5	-	6	-	6	-	3	7	2	2	-	17	42
Nevada, Univ of	25	6	1	5	8	-	-	5	-	5	-	3	3	-	2	-	-	25
Boston College/MA	24	9	5	4	-	-	-	-	-	-	9	6	-	-	-	-	18	32
North Dakota St Univ	24	4	-	4	-	-	2	15	8	7	-	-	3	-	1	1	-	24
Colorado Sch of Mines	24	-	-	-	9	1	-	-	-	-	4	-	10	3	-	-	1	25
Ohio University	23	6	4	2	-	1	-	6	-	6	-	5	5	1	4	-	41	64
Loyola U Chicago/IL	23	3	-	3	-	-	-	6	-	6	3	11	-	-	-	-	19	42
Michigan Tech Univ	23	7	4	3	1	-	-	2	-	2	-	-	13	-	1	4	-	23
St Louis Univ/MO	23	-	-	-	5	2	-	7	-	7	4	5	-	-	-	-	32	55
Catholic U Amer/DC	23	7	4	3	-	-	-	1	-	1	5	4	6	-	2	1	30	53
Georgia State Univ	23	5	4	1	-	-	-	4	-	4	4	10	-	-	-	-	36	59
New Hampshire, U of	22	2	1	1	-	-	-	9	2	7	3	4	4	1	-	-	3	25
Mass, U of-Lowell	22	15	8	7	-	-	-	1	-	1	-	-	6	-	-	1	2	24
Northern Illinois U	21	9	-	9	1	-	-	3	-	3	5	3	-	-	-	-	32	53
Old Dominion Univ/VA	21	1	1	-	3	4	1	2	-	2	-	1	9	-	3	6	3	24
Montana State Univ	21	10	5	5	1	-	-	5	-	5	-	-	5	1	2	1	5	26
Denver, Univ of/CO	21	2	2	-	-	-	-	1	-	1	12	6	-	-	-	-	18	39
Cal S Prof Psy-Alameda	21	-	-	-	-	-	-	-	-	-	-	21	-	-	-	-	-	21
Maine, U-Orono	20	3	2	1	-	-	-	7	2	5	-	4	6	2	-	-	1	21
Hofstra Univ/NY	20	-	-	-	-	-	-	-	-	-	-	20	-	-	-	-	5	25
Yeshiva-Einst Med/NY	20	-	-	-	-	-	-	20	-	20	-	-	-	-	-	-	-	20
Mississippi, Univ of	20	7	1	6	-	-	-	-	-	-	2	7	4	1	-	1	38	58

See footnotes at end of table.

Table 10. Institutions conferring science and engineering (S&E) doctorates, by sex and major field: 1991--continued

Sex and institution(1)	Total S&E	Major field: Physical Sciences: Sub-total	Physical Sciences: Phys &astr	Physical Sciences: Chem-istry	Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci: Sub-total	Agric & Biol Sci: Agri sci	Agric & Biol Sci: Biol sci	Soc sci	Psych	Engineering(2): Sub-total	Engineering(2): Chem	Engineering(2): Elec	Engineering(2): Mech	Non-S&E (3)	Total all fields
MALE																		
Claremont Grad Sch/CA	20	-	-	-	-	2	1	2	-	2	8	7	-	-	-	-	18	38
Worcester Poly Inst/MA	19	2	2	-	-	-	-	1	-	1	-	-	16	3	4	2	-	19
New Sch Soc Rsch/NY	19	-	-	-	-	-	-	-	-	-	10	9	-	-	-	-	2	21
Miami University/OH	19	7	-	7	-	-	-	7	-	7	-	3	-	-	-	-	10	29
Toledo, Univ of/OH	19	4	2	2	-	-	-	-	-	-	-	3	12	-	3	4	14	33
Western Michigan U	19	-	-	-	-	8	-	1	-	1	4	6	-	-	-	-	19	38
Tex U Hlth Sci-Houston	19	1	1	-	-	-	-	18	-	18	-	-	-	-	-	-	11	30
Alabama, U-Huntsville	18	3	3	-	-	-	2	-	-	-	-	-	13	-	2	3	-	18
Baylor Coll Med/TX	18	-	-	-	-	-	-	18	-	18	-	-	-	-	-	-	-	18
Tex U Swstrn Med Ctr	18	-	-	-	-	-	-	13	-	13	-	3	2	-	-	-	-	18
Fuller Theol Sem/CA	18	-	-	-	-	-	-	-	-	-	1	17	-	-	-	-	8	26
Rockefeller Univ/NY	17	2	2	-	-	-	-	15	-	15	-	-	-	-	-	-	-	17
Marquette Univ/WI	17	6	-	6	-	-	-	1	-	1	-	1	9	-	2	2	26	43
George Mason U/VA	17	-	-	-	-	-	5	1	-	1	8	3	-	-	-	-	4	21
Nova University/FL	17	-	-	-	-	-	11	-	-	-	-	6	-	-	-	-	104	121
Southwestern LA, U of	17	-	-	-	-	5	9	-	-	-	-	-	3	-	-	-	6	23
SUNY Hlth Sci-Brooklyn	16	-	-	-	-	-	-	16	-	16	-	-	-	-	-	-	-	16
Cal S Prof Psy-Alhambra	16	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	16
Cal S Prof Psy-San Dgo	15	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	15
Fordham Univ/NY	14	-	-	-	-	-	-	-	-	-	7	7	-	-	-	-	41	55
Bowling Green St U/OH	14	-	-	-	-	3	-	4	-	4	1	6	-	-	-	-	18	32
Louisville, U of/KY	14	2	-	2	-	-	1	5	-	5	-	3	3	1	-	-	6	20
Alfred University/NY	13	-	-	-	-	-	-	-	-	-	-	-	13	-	-	-	-	13
Maryland, U, Sch Med	13	2	-	2	-	-	-	11	-	11	-	-	-	-	-	-	4	17
American Univ/DC	13	1	-	1	-	-	-	-	-	-	9	3	-	-	-	-	9	22
Oregon Graduate Inst	13	4	2	2	2	-	2	-	-	-	-	-	5	-	3	-	-	13
Clark University/MA	12	4	2	2	-	-	-	2	-	2	5	1	-	-	-	-	-	12
St Johns U-Queens/NY	12	-	-	-	-	-	-	2	-	2	-	10	-	-	-	-	10	22
Ball State Univ/IN	12	-	-	-	-	-	-	-	-	-	3	9	-	-	-	-	20	32
Texas U Med Br-Galvstn	12	-	-	-	-	-	-	12	-	12	-	-	-	-	-	-	-	12
N Mexico Mining&Tech	12	2	1	1	4	-	-	-	-	-	-	-	6	-	-	-	-	12
Portland State U/OR	12	3	1	2	1	-	-	1	-	1	5	-	2	-	1	-	5	17
SUNY Envir Sci Frstry	11	1	-	1	1	-	-	8	4	4	-	-	1	-	-	-	1	12
Maryland, U-Balt Cnty	11	-	-	-	-	2	2	3	-	3	3	-	1	-	1	-	1	12
LA St U, Sch Med-N Orl	11	-	-	-	-	-	-	11	-	11	-	-	-	-	-	-	-	11
Tulsa, Univ of/OK	11	-	-	-	-	-	-	-	-	-	-	2	9	4	-	1	3	14
Montana, Univ of	11	-	-	-	-	-	-	6	2	4	-	5	-	-	-	-	-	11
Albany Med Coll/NY	10	-	-	-	-	-	-	10	-	10	-	-	-	-	-	-	-	10
New Jersey Inst Tech	10	-	-	-	-	-	-	-	-	-	-	-	10	4	2	3	-	10
Seton Hall Univ/NJ	10	6	-	6	-	-	-	-	-	-	-	4	-	-	-	-	6	16
Med Univ South Carolina	10	3	-	3	-	-	-	7	-	7	-	-	-	-	-	-	1	11
Missouri, U-Kans City	9	3	-	3	-	1	-	2	-	2	-	3	-	-	-	-	15	24
Wichita St Univ/KS	9	2	-	2	-	-	-	1	-	1	-	-	6	-	2	2	1	10
William&Mary, Coll/VA	9	5	5	-	4	-	-	-	-	-	-	-	-	-	-	-	10	19
Florida Inst Tech	9	-	-	-	1	-	-	1	-	1	-	-	7	-	4	1	3	12
Memphis State U/TN	9	-	-	-	-	-	1	2	-	2	-	5	1	-	1	-	22	31
Northern Arizona U	9	-	-	-	-	-	-	5	-	5	4	-	-	-	-	-	19	28
Loma Linda Univ/CA	9	-	-	-	-	-	-	9	-	9	-	-	-	-	-	-	1	10
Saybrook Inst/CA	9	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	9
Alaska, Univ of	9	2	2	-	6	-	-	1	1	-	-	-	-	-	-	-	-	9
Rutgers U-Newark/NJ	8	2	-	2	-	-	-	3	-	3	1	2	-	-	-	-	1	9
Med Coll Ohio at Toledo	8	-	-	-	-	-	-	8	-	8	-	-	-	-	-	-	1	9
Indiana State Univ	8	-	-	-	-	-	-	2	-	2	-	6	-	-	-	-	8	16
Med Coll of Wisconsin	8	1	1	-	-	-	-	7	-	7	-	-	-	-	-	-	-	8
Walden University/MN	8	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	33	41
North Dakota, U of	8	-	-	-	-	-	-	3	-	3	-	5	-	-	-	-	8	16
Uniform Svc U Hlth/MD	8	-	-	-	-	-	-	7	-	7	-	1	-	-	-	-	-	8
Tenn, U-Hlth Sci Ctr	8	1	-	1	-	-	-	7	-	7	-	-	-	-	-	-	-	8
New York Medical Coll	7	-	-	-	-	-	-	7	-	7	-	-	-	-	-	-	-	7
Duquesne Univ/PA	7	-	-	-	-	-	-	1	-	1	-	6	-	-	-	-	4	11
Thomas Jefferson U/PA	7	-	-	-	-	-	-	7	-	7	-	-	-	-	-	-	-	7
Hlth Sci U-Chicgo Med	7	-	-	-	-	-	-	3	-	3	-	4	-	-	-	-	-	7
Depaul University/IL	7	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	7
Rush University/IL	7	-	-	-	-	-	-	7	-	7	-	-	-	-	-	-	-	7
S Dakota Sch Mine&Tech	7	-	-	-	1	-	-	-	-	-	-	-	6	-	-	-	-	7
Clark Atlanta U/GA	7	-	-	-	-	-	-	2	-	2	2	3	-	-	-	-	13	20
Central Florida, U/FL	7	-	-	-	-	-	1	-	-	-	-	-	6	-	1	-	5	12
New Orleans, U of/LA	7	4	-	4	-	-	-	-	-	-	2	1	-	-	-	-	3	10
Texas Womans Univ	7	-	-	-	-	-	-	2	1	1	1	4	-	-	-	-	8	15
Naval Postgrad Sch/CA	7	1	1	-	1	2	1	-	-	-	-	-	2	-	2	-	-	7
Mass, U Med Sch-Worcstr	6	-	-	-	-	-	-	6	-	6	-	-	-	-	-	-	1	7
Fairleigh Dickn U/NJ	6	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	6
N.J. Med Sch-Newark	6	-	-	-	-	-	-	6	-	6	-	-	-	-	-	-	-	6
Air Force Inst Tech/OH	6	-	-	-	-	1	-	-	-	-	-	-	5	-	4	-	-	6
Dayton, U of/OH	6	-	-	-	-	-	-	1	-	1	-	-	5	-	2	-	-	6
Oakland Univ/MI	6	1	1	-	-	-	-	2	-	2	-	-	3	-	-	-	-	6
Mayo Grad Sch/MN	6	-	-	-	-	-	-	6	-	6	-	-	-	-	-	-	1	7
Missouri, U-St Louis	6	2	-	2	-	-	-	-	-	-	-	4	-	-	-	-	4	10
South Dakota, U of	6	-	-	-	-	-	-	4	-	4	-	2	-	-	-	-	12	18
Wake Forest Univ/NC	6	-	-	-	-	-	-	6	-	6	-	-	-	-	-	-	-	6

See footnotes at end of table.

Table 10. Institutions conferring science and engineering (S&E) doctorates, by sex and major field: 1991--continued

		Major field																
Sex and institution(1)	Total S&E	Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(2)				Non-S&E (3)	Total all fields
		Sub-total	Phys &astr	Chem-istry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
MALE																		
Texas Christian Univ	6	3	1	2	-	-	-	-	-	-	-	3	-	-	-	-	2	8
Oregon Health Sci U	6	-	-	-	-	-	-	6	-	6	-	-	-	-	-	-	-	6
Wright Inst-Berkl/CA	6	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	6
Calif Inst Integral Stds	6	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	6
Fielding Inst/CA	6	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	4	10
Pacific Grad Psych/CA	6	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	6
Wesleyan Univ/CT	5	2	-	2	-	2	-	1	-	1	-	-	-	-	-	-	2	7
Adelphi Univ/NY	5	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	2	7
Bryn Mawr Coll/PA	5	3	2	1	1	-	-	-	-	-	-	1	-	-	-	-	8	13
Cleveland St Univ/OH	5	4	-	4	-	-	-	1	-	1	-	-	-	-	-	-	-	5
Illinois St U-Normal	5	-	-	-	-	1	-	4	-	4	-	-	-	-	-	-	10	15
Detroit Mercy, U/MI	5	1	-	1	-	-	-	-	-	-	-	2	2	-	-	1	-	5
South Dakota State U	5	-	-	-	-	-	-	5	4	1	-	-	-	-	-	-	-	5
East Tenn State Univ	5	-	-	-	-	-	-	5	-	5	-	-	-	-	-	-	3	8
Idaho State Univ	5	-	-	-	-	1	-	3	-	3	1	-	-	-	-	-	1	6
Northern Colorado, U	5	-	-	-	-	3	-	1	-	1	-	1	-	-	-	-	20	25
Rand Grad School/CA	5	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	5
Puerto Rico, U-Rio Piedrs	5	4	-	4	-	-	-	1	-	1	-	-	-	-	-	-	4	9
SUNY Hlth Sci-Syracuse	4	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	-	4
Yeshiva Univ/NY	4	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	4	8
Med Coll of Pennsylvania	4	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	-	4
Wright State Univ/OH	4	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	-	4
E Carolina U-Med/NC	4	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	-	4
Medical Coll of Georgia	4	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	1	5
Arkansas U-Med Sci	4	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	-	4
LSU, Sch Med-Shreveport	4	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	-	4
Baylor Univ/TX	4	4	1	3	-	-	-	-	-	-	-	-	-	-	-	-	12	16
Tex U Hlth Sci-San Anton	4	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	-	4
NC, U of-Greensboro	3	-	-	-	-	-	-	2	-	2	-	1	-	-	-	-	11	14
Florida Atlantic U	3	-	-	-	-	-	-	-	-	-	-	-	3	-	1	-	4	7
Tennessee Tech U	3	-	-	-	-	-	-	-	-	-	-	-	3	-	-	3	-	3
George Peabody Coll/TN	3	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	15	18
Mississippi U-Med Ctr	3	-	-	-	-	-	-	3	-	3	-	-	-	-	-	-	-	3
Louisiana Tech Univ	3	-	-	-	-	-	-	-	-	-	-	-	3	1	-	1	5	8
Sam Houston St U/TX	3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	3
S F Austin St U/TX	3	-	-	-	-	-	-	3	3	-	-	-	-	-	-	-	-	3
Pacific, U of/CA	3	1	-	1	-	-	-	2	-	2	-	-	-	-	-	-	6	9
Caribbean Col Adv Std/PR	3	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3
Phila Coll Pharm&Sci/PA	2	1	-	1	-	-	-	1	-	1	-	-	-	-	-	-	3	5
Villanova Univ/PA	2	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Creighton Univ/NE	2	-	-	-	-	-	-	2	-	2	-	-	-	-	-	-	-	2
Inst of Paper Sci/GA	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2
So Bapt Theol Sem/KY	2	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	32	34
Meharry Med Coll/TN	2	-	-	-	-	-	-	2	-	2	-	-	-	-	-	-	-	2
Middle Tenn State U	2	1	-	1	-	-	-	-	-	-	1	-	-	-	-	-	5	7
NE Louisiana Univ	2	-	-	-	-	-	-	2	-	2	-	-	-	-	-	-	2	4
Dallas, Univ of/TX	2	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	2
East Texas State U	2	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	22	24
Biola Univ/CA	2	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2	4
Mass, U-Boston	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
Long Isl U-Brooklyn/NY	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Annenberg Res Inst/PA	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	3	4
Indiana Univ of PA	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	11	12
Hahnemann Univ/PA	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	1	2
Northern Iowa, U of	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	8	9
South Alabama, U	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1
Lamar University/TX	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	1
Texas, U-El Paso	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1

See footnotes at end of table.

Table 10. Institutions conferring science and engineering (S&E) doctorates, by sex and major field: 1991--continued

Sex and institution(1)	Total S&E	Major field: Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(2)				Non-S&E (3)	Total all fields
		Sub-total	Phys &astr	Chem-istry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
FEMALE																		
Minnesota, U-Minneapls	131	8	1	7	4	4	1	46	15	31	29	32	7	1	1	1	127	258
Calif, U-Berkeley	127	11	2	9	2	8	-	42	3	39	43	7	14	1	-	3	114	241
Calif, U-Los Angeles	122	12	4	8	7	1	2	35	-	35	35	22	8	2	2	-	100	222
Wisconsin, U-Madison	121	12	2	10	3	5	3	48	5	43	25	16	9	3	-	-	98	219
Cornell Univ/NY	110	12	5	7	1	2	2	40	12	28	33	8	12	-	2	1	37	147
Michigan, Univ of	109	11	2	9	3	2	3	24	2	22	27	27	12	1	1	-	109	218
Stanford Univ/CA	106	10	4	6	9	2	7	22	2	20	20	7	29	3	3	6	53	159
Ill, U, Urbana-Champgn	104	16	7	9	2	3	5	45	10	35	16	10	7	2	1	1	94	198
Calif, U-Davis	98	14	1	13	3	2	1	59	7	52	11	2	6	2	-	2	14	112
Maryland, Univ of	96	12	5	7	-	4	1	22	4	18	24	27	6	-	1	-	100	196
Penn State Univ	91	12	4	8	5	2	2	17	6	11	26	21	6	1	1	1	71	162
Mass Inst Technology	89	16	5	11	10	3	1	18	-	18	10	2	29	4	6	2	5	94
Texas, U-Austin	87	12	4	8	2	3	1	19	-	19	21	21	8	2	1	1	167	254
Ohio State Univ	86	9	3	6	-	1	2	33	3	30	21	16	4	-	2	-	132	218
Pennsylvania, U of	85	3	1	2	2	2	2	22	-	22	35	9	10	3	-	-	90	175
NC, U of-Chapel Hill	84	17	3	14	2	4	2	29	-	29	13	17	-	-	-	-	82	166
Harvard Univ/MA	82	5	4	1	1	1	-	38	-	38	29	8	-	-	-	-	117	199
CUNY-Grad Sch&U Ctr	79	13	4	9	-	2	4	16	-	16	13	30	1	-	1	-	40	119
Johns Hopkins U/MD	77	5	1	4	4	2	-	37	-	37	13	3	13	2	2	1	46	123
Northwestern Univ/IL	76	2	-	2	1	5	1	23	-	23	15	17	12	1	1	1	38	114
Washington, U of	75	13	1	12	7	1	3	26	2	24	9	8	8	2	2	-	85	160
Columbia Univ/NY	73	2	1	1	4	3	2	10	-	10	20	25	7	-	1	-	71	144
Michigan State Univ	72	9	-	9	-	1	-	29	9	20	15	16	2	-	-	2	58	130
Yale University/CT	68	6	2	4	-	3	-	28	-	28	22	8	1	-	-	1	68	136
Texas A&M University	68	10	-	10	4	2	2	30	10	20	4	11	5	-	-	1	53	121
Florida, Univ of	67	5	-	5	1	1	1	20	5	15	14	14	11	-	2	1	34	101
SUNY at Stony Brook	66	11	3	8	6	4	-	24	-	24	10	10	1	-	-	-	30	96
Purdue University/IN	65	13	-	13	-	2	2	21	3	18	14	7	6	2	3	-	48	113
Rutgers Univ/NJ	63	2	-	2	2	3	-	24	7	17	13	7	12	2	-	2	63	126
Southern Calif, U of	63	4	-	4	-	1	3	10	-	10	9	30	6	1	1	-	94	157
New York University	61	4	-	4	-	3	2	14	-	14	13	25	-	-	-	-	153	214
Mass, U of-Amherst	60	6	-	6	2	2	3	12	3	9	15	11	9	4	-	1	101	161
Chicago, Univ of/IL	60	12	3	9	2	2	-	7	-	7	29	8	-	-	-	-	49	109
Arizona, Univ of	55	9	3	6	3	2	-	23	6	17	9	5	4	-	-	-	50	105
Calif, U-San Diego	55	3	1	2	4	6	1	10	-	10	15	12	4	1	-	-	6	61
Boston University/MA	53	8	6	2	-	2	-	23	-	23	7	12	1	-	-	-	63	116
Cal S Prof Psy-Alhambra	52	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	52
Pittsburgh, Univ of	50	3	-	3	1	1	-	15	-	15	7	21	2	1	-	-	92	142
Indiana U-Bloomington	50	9	3	6	2	-	-	12	-	12	20	7	-	-	-	-	88	138
Virginia, Univ of	50	4	-	4	-	4	1	10	-	10	7	19	5	2	1	-	71	121
Connecticut, Univ of	49	4	1	3	-	2	1	15	-	15	14	8	5	1	1	-	42	91
Rochester, U of/NY	48	11	3	8	-	2	-	16	-	16	10	7	2	-	2	-	37	85
Georgia, Univ of	48	1	-	1	1	-	-	25	5	20	4	17	-	-	-	-	84	132
Iowa State Univ	47	15	3	12	1	2	1	17	6	11	7	4	-	-	-	-	29	76
Tenn, U-Knoxville	47	5	2	3	1	-	-	15	2	13	8	16	2	1	-	-	39	86
U S Internatl U/CA	47	-	-	-	-	-	-	-	-	-	-	47	-	-	-	-	21	68
Missouri, U-Columbia	46	3	1	2	-	1	-	14	4	10	3	24	1	1	-	-	39	85
VA Poly Inst&St U	46	3	-	3	5	3	-	17	7	10	9	7	2	-	-	1	52	98
Colorado, U-Boulder	46	7	3	4	6	4	2	8	-	8	9	6	4	2	-	-	45	91
SUNY at Buffalo	45	6	1	5	1	1	-	8	-	8	10	18	1	-	-	-	32	77
NC State U-Raleigh	45	2	-	2	1	2	-	23	10	13	4	6	7	1	1	3	14	59
Vanderbilt Univ/TN	45	3	1	2	-	-	1	16	-	16	2	21	2	-	-	-	14	59
Cincinnati, U of/OH	44	11	2	9	-	1	2	12	-	12	4	12	2	1	-	-	37	81
Illinois, U-Chicago	43	4	-	4	1	-	-	17	-	17	9	9	3	-	1	1	32	75
LA St U & A&M Coll	42	6	1	5	-	4	-	13	2	11	9	9	1	-	-	-	27	69
Princeton Univ/NJ	41	4	-	4	3	2	2	9	-	9	12	3	6	2	1	2	33	74
Colorado State Univ	40	6	-	6	1	1	-	15	4	11	1	10	6	-	-	1	15	55
VA Commonwealth U	39	2	-	2	-	-	1	20	-	20	2	14	-	-	-	-	9	48
Brown University/RI	38	5	1	4	3	5	3	8	-	8	12	2	-	-	-	-	29	67
Cal S Prof Psy-San Dgo	38	-	-	-	-	-	-	-	-	-	-	38	-	-	-	-	-	38
Case Western Rsrve/OH	37	3	1	2	-	-	1	12	-	12	7	6	8	1	-	1	25	62
Temple University/PA	36	1	1	-	-	1	1	5	-	5	4	24	-	-	-	-	79	115
Duke University/NC	35	3	1	2	-	1	-	18	-	18	5	5	3	-	-	1	13	48
Kentucky, Univ of	35	1	-	1	-	-	-	12	3	9	11	10	1	-	-	-	27	62
Cal S Prof Psy-Alameda	35	-	-	-	-	-	-	-	-	-	-	35	-	-	-	-	-	35
Iowa, University of	34	4	-	4	-	4	1	17	-	17	2	5	1	-	1	-	94	128
Florida State Univ	34	3	1	2	1	-	2	6	-	6	7	15	-	-	-	-	83	117
Calif, U-Santa Barbara	34	4	-	4	5	1	-	5	-	5	9	9	1	1	-	-	16	50
Syracuse Univ/NY	33	3	3	-	-	-	2	8	-	8	12	7	1	-	1	-	36	69
Wayne State Univ/MI	33	3	-	3	-	1	-	8	-	8	3	18	-	-	-	-	63	96
Oregon, Univ of	33	2	-	2	-	1	-	9	-	9	7	14	-	-	-	-	50	83
Rhode Island, U of	31	3	1	2	9	-	-	10	2	8	1	7	1	-	1	-	4	35
Kansas, Univ of	31	2	-	2	-	-	-	8	-	8	4	17	-	-	-	-	64	95
Arizona State Univ	31	3	2	1	-	-	1	3	-	3	10	13	1	-	1	-	42	73
Utah, Univ of	31	6	-	6	1	2	-	8	-	8	5	7	2	-	-	1	22	53
Washington State U	31	1	1	-	-	2	-	7	-	7	7	11	3	-	1	1	20	51
Washington Univ/MO	29	5	-	5	1	1	-	13	-	13	2	7	-	-	-	-	11	40
South Carolina, U of	29	2	-	2	3	2	-	7	-	7	4	10	1	-	-	-	75	104
Nebraska, U-Lincoln	28	-	-	-	-	-	-	13	8	5	4	10	1	-	-	-	68	96
Geo Washington U/DC	28	-	-	-	1	1	1	6	-	6	6	10	3	-	-	-	35	63

See footnotes at end of table.

Table 10. Institutions conferring science and engineering (S&E) doctorates, by sex and major field: 1991--continued

Sex and institution(1)	Total S&E	Major field															Non-S&E (3)	Total all fields
		Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(2)					
		Sub-total	Phys &astr	Chem-istry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
FEMALE																		
Georgetown Univ/DC	28	1	-	1	-	-	-	12	-	12	14	1	-	-	-	-	11	39
Georgia State Univ	28	-	-	-	-	-	-	3	-	3	3	22	-	-	-	-	45	73
Calif, U-San Francisco	28	7	-	7	-	-	-	9	-	9	10	2	-	-	-	-	19	47
Fielding Inst/CA	28	-	-	-	-	-	-	-	-	-	-	28	-	-	-	-	3	31
Emory Univ/GA	27	3	-	3	-	-	-	16	-	16	3	5	-	-	-	-	24	51
Oklahoma State Univ	27	-	-	-	-	-	-	6	2	4	4	14	3	-	-	2	58	85
Miami, Univ of/FL	26	3	-	3	3	-	-	6	-	6	1	13	-	-	-	-	29	55
Calif, U-Irvine	26	4	1	3	-	-	4	9	-	9	5	2	2	-	1	1	16	42
Hawaii, Univ of	26	-	-	-	1	-	-	12	2	10	10	3	-	-	-	-	29	55
Tufts University/MA	25	4	1	3	-	1	-	11	-	11	3	3	3	2	-	-	5	30
Delaware, Univ of	25	3	2	1	2	-	-	3	-	3	9	4	4	1	1	1	14	39
Texas Tech Univ	25	3	1	2	2	1	-	2	1	1	2	14	1	-	-	-	29	54
Brandeis Univ/MA	24	2	-	2	-	1	-	6	-	6	12	3	-	-	-	-	17	41
SUNY at Albany	24	1	-	1	-	-	-	3	-	3	9	11	-	-	-	-	29	53
Notre Dame, U of/IN	24	6	1	5	-	2	-	5	-	5	1	5	5	1	2	2	9	33
Tulane U of LA	23	1	-	1	-	4	2	8	-	8	2	5	1	1	-	-	18	41
Oklahoma, U of	23	4	2	2	3	-	-	7	-	7	2	5	2	-	-	1	34	57
Cal S Prof Psy-Fresno	23	-	-	-	-	-	-	-	-	-	-	23	-	-	-	-	-	23
Carnegie Mellon U/PA	22	1	1	-	-	3	-	5	-	5	4	1	8	2	1	1	7	29
Hofstra Univ/NY	21	-	-	-	-	-	-	-	-	-	-	21	-	-	-	-	18	39
Kent State Univ/OH	21	-	-	-	-	-	-	1	-	1	3	17	-	-	-	-	32	53
Loyola U Chicago/IL	21	1	-	1	-	-	-	6	-	6	1	13	-	-	-	-	34	55
Houston, U of/TX	21	2	1	1	1	-	-	-	-	-	1	15	2	1	1	-	42	63
Wright Inst-Berkl/CA	21	-	-	-	-	-	-	-	-	-	-	21	-	-	-	-	-	21
Fordham Univ/NY	20	-	-	-	-	-	-	1	-	1	4	15	-	-	-	-	36	56
Miami University/OH	20	1	-	1	1	-	-	6	-	6	-	12	-	-	-	-	17	37
Calif, U-Santa Cruz	20	5	2	3	4	1	-	6	1	5	-	4	-	-	-	-	5	25
Southern Illinois U	19	-	-	-	-	-	-	4	-	4	5	10	-	-	-	-	42	61
St Louis Univ/MO	19	-	-	-	-	-	-	6	-	6	4	9	-	-	-	-	38	57
West Virginia Univ	19	-	-	-	-	-	-	8	3	5	1	8	2	1	-	1	24	43
South Florida, U of	19	2	1	1	-	-	-	4	-	4	-	10	3	-	1	-	18	37
Texas Womans Univ	19	-	-	-	-	-	-	3	-	3	5	11	-	-	-	-	54	73
New Mexico, Univ of	19	3	-	3	-	-	-	4	-	4	3	8	1	-	-	1	34	53
Calif, U-Riverside	19	1	-	1	1	4	-	5	2	3	4	4	-	-	-	-	7	26
Northeastern U/MA	18	3	1	2	-	1	-	5	-	5	6	2	1	-	1	-	1	19
Auburn University/AL	18	1	-	1	-	-	-	5	2	3	1	10	1	-	-	-	24	42
Southern Miss, U of	18	2	-	2	-	-	-	1	-	1	-	15	-	-	-	-	26	44
Rice University/TX	18	5	2	3	-	1	1	-	-	-	3	4	4	2	1	1	12	30
Denver, Univ of/CO	18	-	-	-	-	-	-	-	-	-	6	12	-	-	-	-	24	42
Adelphi Univ/NY	17	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	15	32
New Sch Soc Rsch/NY	17	-	-	-	-	-	-	-	-	-	6	11	-	-	-	-	-	17
Akron, U of/OH	17	5	1	4	-	-	-	1	-	1	2	6	3	-	-	1	9	26
Wisconsin, U-Milwaukee	17	-	-	-	-	-	-	-	-	-	10	6	1	-	1	-	18	35
Missouri, U-Kans City	17	-	-	-	-	-	-	1	-	1	-	16	-	-	-	-	9	26
Catholic U Amer/DC	17	2	-	2	-	-	-	1	-	1	1	12	1	-	-	1	28	45
Memphis State U/TN	17	1	-	1	-	1	-	1	-	1	-	14	-	-	-	-	32	49
Mississippi, Univ of	17	3	-	3	-	1	-	1	-	1	1	11	-	-	-	-	30	47
Oregon State Univ	17	4	1	3	1	1	-	8	2	6	2	-	1	-	1	-	11	28
Vermont, U of	16	2	-	2	-	-	-	7	-	7	-	7	-	-	-	-	4	20
Clark University/MA	16	4	-	4	-	-	-	1	-	1	5	6	-	-	-	-	3	19
Lehigh University/PA	16	3	1	2	-	1	-	2	-	2	2	4	4	1	-	1	14	30
Kansas State Univ	16	1	-	1	-	1	-	11	6	5	-	1	2	-	-	1	29	45
Georgia Inst Tech	16	5	2	3	-	-	2	2	-	2	-	2	5	1	1	-	-	16
Alabama, U-Birminghm	16	-	-	-	-	-	1	9	-	9	-	6	-	-	-	-	36	52
North Texas, Univ of	16	-	-	-	-	-	1	1	-	1	3	11	-	-	-	-	54	70
SUNY at Binghamton	15	1	-	1	1	1	-	-	-	-	5	6	1	-	-	-	12	27
Arkansas, U-Fayettvlle	15	3	1	2	-	-	-	5	1	4	-	6	1	-	1	-	25	40
Brigham Young U/UT	15	2	-	2	-	-	-	3	1	2	3	7	-	-	-	-	13	28
Fuller Theol Sem/CA	15	-	-	-	-	-	-	-	-	-	2	13	-	-	-	-	3	18
Rensselaer Poly Ins/NY	14	4	2	2	-	-	1	2	-	2	3	-	4	2	-	-	5	19
American Univ/DC	14	3	1	2	-	2	-	-	-	-	5	4	-	-	-	-	8	22
Calif Inst of Tech	14	3	1	2	2	1	1	2	-	2	-	-	5	-	3	-	-	14
Boston College/MA	13	3	2	1	-	-	-	3	-	3	2	5	-	-	-	-	25	38
Illinois Inst Tech	13	-	-	-	-	-	4	1	-	1	-	8	-	-	-	-	1	14
Maryland, U-Balt Cnty	13	-	-	-	-	-	1	3	-	3	1	7	1	1	-	-	2	15
Tex U Hlth Sci-Houston	13	-	-	-	-	-	-	13	-	13	-	-	-	-	-	-	13	26
Calif Inst Integral Stds	13	-	-	-	-	-	-	-	-	-	-	13	-	-	-	-	-	13
St Johns U-Queens/NY	12	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	4	16
Howard University/DC	12	1	-	1	-	-	-	4	-	4	1	6	-	-	-	-	12	24
Louisville, U of/KY	12	-	-	-	-	-	-	8	-	8	-	4	-	-	-	-	10	22
New Mexico State U	12	1	-	1	-	-	1	3	1	2	-	6	1	-	-	-	8	20
Dartmouth College/NH	11	1	-	1	1	-	-	7	-	7	-	1	1	-	-	-	-	11
Yeshiva Univ/NY	11	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	5	16
Fairleigh Dickn U/NJ	11	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	11
Ball State Univ/IN	11	-	-	-	-	-	-	-	-	-	1	10	-	-	-	-	21	32
Maryland, U, Sch Med	11	1	-	1	-	-	-	10	-	10	-	-	-	-	-	-	15	26
Clark Atlanta U/GA	11	-	-	-	-	-	-	1	-	1	2	8	-	-	-	-	18	29
Alabama, Univ of	11	1	-	1	-	-	-	1	-	1	-	6	3	-	-	1	52	63
Sthrn Methodist U/TX	11	-	-	-	3	2	2	1	-	1	1	-	2	-	1	-	-	11
Texas, U-Dallas	11	1	1	-	1	-	-	3	-	3	2	4	-	-	-	-	3	14

See footnotes at end of table.

Table 10. Institutions conferring science and engineering (S&E) doctorates, by sex and major field: 1991--continued

Sex and institution(1)	Total S&E	Major field: Physical Sciences															Non-S&E (3)	Total all fields
		Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(2)					
		Sub-total	Phys &astr	Chem-istry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
FEMALE																		
Tex U Swstrn Med Ctr	11	-	-	-	-	-	-	7	-	7	-	3	1	-	-	-	-	11
Long Isl U-Brooklyn/NY	10	-	-	-	1	-	-	-	-	-	-	9	-	-	-	-	-	10
Rockefeller Univ/NY	10	-	-	-	-	-	-	10	-	10	-	-	-	-	-	-	-	10
Yeshiva-Einst Med/NY	10	-	-	-	-	-	-	10	-	10	-	-	-	-	-	-	-	10
Bowling Green St U/OH	10	-	-	-	-	2	-	1	-	1	3	4	-	-	-	-	23	33
Hlth Sci U-Chicgo Med	10	-	-	-	-	-	-	2	-	2	-	8	-	-	-	-	-	10
Old Dominion Univ/VA	10	-	-	-	-	-	-	4	-	4	2	4	-	-	-	-	1	11
NC, U of-Greensboro	10	-	-	-	-	-	-	1	-	1	2	7	-	-	-	-	56	66
Wake Forest Univ/NC	10	-	-	-	-	-	-	10	-	10	-	-	-	-	-	-	-	10
Nova University/FL	10	-	-	-	-	-	4	-	-	-	-	6	-	-	-	-	97	107
Baylor Coll Med/TX	10	-	-	-	-	-	-	10	-	10	-	-	-	-	-	-	-	10
Wyoming, Univ of	10	2	-	2	-	2	-	3	-	3	-	3	-	-	-	-	10	20
Utah State Univ	10	-	-	-	-	-	-	3	1	2	3	3	1	-	-	-	2	12
Ohio University	9	-	-	-	-	-	-	4	-	4	-	5	-	-	-	-	30	39
Toledo, Univ of/OH	9	-	-	-	-	-	-	-	-	-	-	8	1	-	-	-	15	24
Depaul University/IL	9	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	1	10
Northern Illinois U	9	2	-	2	-	1	-	-	-	-	3	3	-	-	-	-	45	54
Maine, U-Orono	8	2	-	2	-	-	-	3	1	2	-	3	-	-	-	-	3	11
SUNY Envir Sci Frstry	8	-	-	-	2	-	-	6	4	2	-	-	-	-	-	-	-	8
Rutgers U-Newark/NJ	8	1	-	1	-	-	-	2	-	2	5	-	-	-	-	-	2	10
Bryn Mawr Coll/PA	8	-	-	-	-	-	-	-	-	-	2	6	-	-	-	-	12	20
Western Michigan U	8	-	-	-	-	1	-	-	-	-	-	7	-	-	-	-	13	21
Marquette Univ/WI	8	1	-	1	-	1	-	3	-	3	-	3	-	-	-	-	10	18
Missouri, U-St Louis	8	2	-	2	-	-	-	-	-	-	-	6	-	-	-	-	10	18
Clemson Univ/SC	8	1	-	1	1	-	-	4	1	3	-	-	2	-	1	-	5	13
Montana, Univ of	8	-	-	-	-	-	-	2	1	1	2	4	-	-	-	-	3	11
Claremont Grad Sch/CA	8	-	-	-	-	-	-	-	-	-	1	7	-	-	-	-	25	33
Pacific Grad Psych/CA	8	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	8
Saybrook Inst/CA	8	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	8
New Hampshire, U of	7	-	-	-	-	1	-	-	-	-	2	3	1	-	-	-	7	14
SUNY Hlth Sci-Brooklyn	7	-	-	-	-	-	-	7	-	7	-	-	-	-	-	-	-	7
Walden University/MN	7	-	-	-	-	-	-	-	-	-	5	2	-	-	-	-	13	20
Med Univ South Carolina	7	-	-	-	-	-	-	7	-	7	-	-	-	-	-	-	-	7
Mississippi State U	7	-	-	-	-	-	-	4	2	2	1	2	-	-	-	-	24	31
Colorado Sch of Mines	7	1	-	1	3	-	-	-	-	-	1	-	2				-	7
Nevada, Univ of	7	-	-	-	1	-	-	1	-	1	-	5	-	-	-	-	3	10
Loma Linda Univ/CA	7	-	-	-	-	-	-	7	-	7	-	-	-	-	-	-	4	11
Puerto Rico, U-Rio Piedrs	7	1	-	1	-	-	-	1	-	1	1	4	-	-	-	-	7	14
Cornell U Med Coll/NY	6	-	-	-	-	-	-	6	-	6	-	-	-	-	-	-	-	6
Med Coll Ohio at Toledo	6	-	-	-	-	-	-	6	-	6	-	-	-	-	-	-	-	6
Indiana State Univ	6	-	-	-	-	-	-	2	-	2	-	4	-	-	-	-	4	10
North Dakota, U of	6	1	-	1	-	-	-	-	-	-	-	5	-	-	-	-	12	18
South Dakota, U of	6	-	-	-	-	-	-	1	-	1	-	5	-	-	-	-	9	15
Uniform Svc U Hlth/MD	6	-	-	-	-	-	-	5	-	5	-	1	-	-	-	-	-	6
Medical Coll of Georgia	6	-	-	-	-	-	-	6	-	6	-	-	-	-	-	-	1	7
Southwestern LA, U of	6	-	-	-	-	2	3	1	-	1	-	-	-	-	-	-	6	12
Texas U Med Br-Galvstn	6	-	-	-	-	-	-	6	-	6	-	-	-	-	-	-	1	7
New York Medical Coll	5	-	-	-	-	-	-	5	-	5	-	-	-	-	-	-	-	5
Med Coll of Pensylvania	5	-	-	-	-	-	-	5	-	5	-	-	-	-	-	-	-	5
Illinois St U-Normal	5	-	-	-	-	-	-	5	-	5	-	-	-	-	-	-	19	24
Detroit Mercy, U/MI	5	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	5
North Dakota St Univ	5	1	-	1	-	1	-	3	1	2	-	-	-	-	-	-	-	5
George Mason U/VA	5	-	-	-	-	-	1	-	-	-	-	4	-	-	-	-	9	14
New Orleans, U of/LA	5	3	-	3	-	-	-	-	-	-	-	2	-	-	-	-	8	13
Texas, U-Arlington	5	1	1	-	-	1	2	-	-	-	-	1	-	-	-	-	11	16
Idaho State Univ	5	-	-	-	-	-	-	3	-	3	2	-	-	-	-	-	5	10
Rand Grad School/CA	5	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	5
Mass, U of-Lowell	4	1	-	1	-	-	-	3	-	3	-	-	-	-	-	-	7	11
Wesleyan Univ/CT	4	1	-	1	-	2	-	1	-	1	-	-	-	-	-	-	-	4
Clarkson Univ/NY	4	1	1	-	-	-	-	2	-	2	-	-	1	1	-	-	-	4
Polytechnic Univ/NY	4	1	-	1	-	1	1	-	-	-	-	-	1	-	-	-	-	4
Albany Med Coll/NY	4	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	-	4
Seton Hall Univ/NJ	4	1	-	1	-	-	-	-	-	-	-	3	-	-	-	-	5	9
Stevens Inst Tech/NJ	4	2	1	1	-	-	-	-	-	-	-	1	1	-	-	-	-	4
Drexel University/PA	4	-	-	-	1	-	-	2	-	2	-	-	1	-	1	-	2	6
Cleveland St Univ/OH	4	3	-	3	-	-	-	1	-	1	-	-	-	-	-	-	2	6
Wright State Univ/OH	4	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	-	4
Michigan Tech Univ	4	3	1	2	-	-	-	-	-	-	-	-	1	-	-	1	-	4
Med Coll of Wisconsin	4	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	-	4
Missouri, U-Rolla	4	1	-	1	-	-	-	-	-	-	-	-	3	-	-	-	-	4
Tenn, U-Hlth Sci Ctr	4	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	-	4
Sam Houston St U/TX	4	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	4
Idaho, Univ of	4	-	-	-	-	-	-	4	3	1	-	-	-	-	-	-	16	20
N Mexico Mining&Tech	4	-	-	-	3	-	1	-	-	-	-	-	-	-	-	-	-	4
Oregon Health Sci U	4	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	5	9
N.J. Med Sch-Newark	3	-	-	-	-	-	-	3	-	3	-	-	-	-	-	-	-	3
Thomas Jefferson U/PA	3	-	-	-	-	-	-	3	-	3	-	-	-	-	-	-	-	3
William&Mary, Coll/VA	3	1	1	-	1	-	-	1	-	1	-	-	-	-	-	-	16	19
E Carolina U-Med/NC	3	-	-	-	-	-	-	3	-	3	-	-	-	-	-	-	-	3
Middle Tenn State U	3	1	-	1	-	-	-	-	-	-	2	-	-	-	-	-	6	9

See footnotes at end of table.

Table 10. Institutions conferring science and engineering (S&E) doctorates, by sex and major field: 1991--continued

Sex and institution(1)	Total S&E	Physical Sciences: Sub-total	Physical Sciences: Phys &astr	Physical Sciences: Chem-istry	Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci: Sub-total	Agric & Biol Sci: Agri sci	Agric & Biol Sci: Biol sci	Soc sci	Psych	Engineering(2): Sub-total	Engineering(2): Chem	Engineering(2): Elec	Engineering(2): Mech	Non-S&E (3)	Total all fields
FEMALE																		
Alabama, U-Huntsville	3	2	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	3
LSU, Sch Med-Shreveport	3	-	-	-	-	-	-	3	-	3	-	-	-	-	-	-	-	3
Tulsa, Univ of/OK	3	-	-	-	-	-	-	-	-	-	-	2	1	1	-	-	10	13
Texas Christian Univ	3	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	6	9
Montana State Univ	3	2	-	2	-	-	-	1	-	1	-	-	-	-	-	-	5	8
Northern Arizona U	3	-	-	-	-	-	-	3	-	3	-	-	-	-	-	-	28	31
Caribbean Col Adv Std/PR	3	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3
Worcester Poly Inst/MA	2	-	-	-	-	-	-	1	-	1	-	-	1	-	1	-	-	2
Alfred University/NY	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2
Duquesne Univ/PA	2	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	5	7
Hahnemann Univ/PA	2	-	-	-	-	-	-	1	-	1	-	1	-	-	-	-	-	2
Rush University/IL	2	-	-	-	-	-	-	2	-	2	-	-	-	-	-	-	14	16
Mayo Grad Sch/MN	2	-	-	-	-	-	-	2	-	2	-	-	-	-	-	-	-	2
South Dakota State U	2	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-	2
Florida Inst Tech	2	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2	4
Florida Atlantic U	2	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	9	11
Florida Internat'l U	2	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	5	7
Central Florida, U/FL	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	6	8
LA St U, Sch Med-N Orl	2	-	-	-	-	-	-	2	-	2	-	-	-	-	-	-	5	7
S F Austin St U/TX	2	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-	2
Northern Colorado, U	2	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	16	18
Biola Univ/CA	2	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2
Mass, U Med Sch-Worcstr	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	1	2
Drew University/NJ	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	9	10
Indiana Univ of PA	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	13	14
Oakland Univ/MI	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3
Northern Iowa, U of	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	2
Creighton Univ/NE	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	1	2
Wichita St Univ/KS	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	3
East Tenn State Univ	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	2	3
Meharry Med Coll/TN	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1
Tennessee Tech U	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
George Peabody Coll/TN	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	47	48
South Alabama, U	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1
Mississippi U-Med Ctr	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1
Arkansas U-Med Sci	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1
NE Louisiana Univ	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	2
Baylor Univ/TX	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	7	8
East Texas State U	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	26	27
Texas, U-El Paso	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
Tex U Hlth Sci-San Anton	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1
Oregon Graduate Inst	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1
Portland State U/OR	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	2	3
Alaska, Univ of	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1

(1) The institutions are ranked according to the number of S&E doctorate recipients (column 1). Degrees awarded by institutions jointly are included under the institution that officially conferred the degree.

(2) Subtotal includes doctorate recipients whose engineering fields are not separately shown.

(3) Non-S&E doctorate recipients include those whose field of specialization is unknown.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

Table 11. Baccalaureate-origin institutions of 10 or more science and engineering (S&E) doctorate recipients, by major field: 1986-1991

		Major field																
Institution of baccalaureate(1)	Total S&E	Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(2)				Non-S&E (3)	Total all fields
		Sub-total	Phys &astr	Chem-istry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
Calif, U-Berkeley	1,614	265	166	99	73	49	38	448	40	408	289	185	267	57	74	38	585	2,199
Ill, U, Urbana-Champ	1,193	148	66	82	34	14	32	360	94	266	97	143	365	54	102	56	444	1,637
Cornell Univ/NY	1,168	148	92	56	49	18	30	454	84	370	136	143	190	25	41	23	331	1,499
Michigan, Univ of	1,122	130	52	78	49	15	32	289	21	268	157	198	252	37	52	30	568	1,690
Mass Inst Technology	1,037	279	196	83	44	44	63	141	1	140	52	14	400	63	117	48	44	1,081
Penn State Univ	1,024	108	36	72	64	12	20	370	112	258	109	130	211	34	29	28	405	1,429
Wisconsin, U-Madison	956	116	55	61	50	28	23	307	86	221	145	143	144	24	23	32	502	1,458
Calif, U-Los Angeles	926	140	72	68	39	23	20	211	5	206	126	248	119	9	38	13	414	1,340
Harvard Univ/MA	780	133	100	33	23	46	50	216	6	210	177	94	41	2	8	6	304	1,084
Rutgers Univ/NJ	776	110	20	90	38	17	3	280	56	224	70	157	101	16	16	10	289	1,065
Michigan State Univ	763	68	27	41	21	15	17	322	98	224	104	116	100	15	24	17	453	1,216
Minnesota, U-Minneapls	757	91	45	46	24	23	13	235	78	157	104	120	147	42	37	23	424	1,181
Calif, U-Davis	752	73	28	45	36	12	9	413	64	349	54	65	90	19	14	18	135	887
Purdue University/IN	717	101	31	70	20	7	16	235	79	156	40	46	252	44	65	33	228	945
Ohio State Univ	644	64	25	39	20	12	21	218	80	138	77	102	130	15	30	23	525	1,169
Maryland, Univ of	628	72	37	35	26	17	16	209	36	173	78	104	106	14	36	19	350	978
Texas, U-Austin	628	74	36	38	29	22	17	111	7	104	92	147	136	26	27	16	515	1,143
Washington, U of	624	81	40	41	52	17	14	154	26	128	95	99	112	23	20	12	357	981
Pennsylvania, U of	586	62	33	29	12	12	18	139	2	137	125	136	82	37	11	5	278	864
Stanford Univ/CA	572	79	53	26	31	13	16	138	5	133	109	100	86	18	19	19	233	805
Iowa State Univ	557	49	24	25	13	6	14	230	108	122	61	34	150	26	29	23	165	722
Princeton Univ/NJ	540	124	97	27	27	39	19	98	-	98	78	56	99	32	21	8	177	717
Colorado, U-Boulder	532	59	30	29	20	24	8	124	9	115	114	99	84	21	22	5	285	817
Yale University/CT	526	81	47	34	24	17	24	148	2	146	108	92	32	6	5	4	303	829
Florida, Univ of	518	47	18	29	10	20	8	160	51	109	54	119	100	14	21	16	319	837
SUNY at Buffalo	516	75	14	61	13	9	16	98	4	94	71	115	119	21	26	27	323	839
Calif, U-Santa Barbara	504	41	17	24	41	16	7	159	8	151	95	94	51	8	11	14	247	751
Mass, U of-Amherst	495	52	18	34	17	7	2	184	41	143	77	89	67	16	13	9	310	805
Calif, U-San Diego	487	81	39	42	27	20	4	148	4	144	56	78	73	12	16	3	88	575
Brown University/RI	476	48	21	27	25	15	25	117	1	116	60	124	62	3	16	10	156	632
VA Poly Inst&St U	473	36	7	29	26	8	10	128	40	88	27	32	206	27	32	49	103	576
Texas A&M University	459	44	17	27	23	8	5	170	75	95	23	33	153	23	25	29	138	597
Brigham Young U/UT	456	59	28	31	8	9	5	113	31	82	76	88	98	31	16	20	441	897
Delaware, Univ of	448	76	14	62	18	5	5	128	28	100	68	50	98	41	14	17	120	568
Chicago, Univ of/IL	446	105	59	46	19	37	4	125	1	124	98	49	9	2	2	2	140	586
Duke University/NC	444	62	22	40	9	5	17	145	7	138	44	96	66	3	16	9	205	649
Virginia, Univ of	438	67	33	34	14	18	12	93	2	91	60	62	112	19	19	19	175	613
SUNY at Stony Brook	431	59	29	30	19	18	6	102	4	98	45	146	36	-	15	7	142	573
Indiana U-Bloomington	425	52	17	35	21	6	19	117	8	109	103	98	9	1	-	2	485	910
Missouri, U-Columbia	422	40	12	28	11	15	1	145	62	83	57	81	72	16	15	12	295	717
Rochester, U of/NY	420	71	34	37	34	6	4	120	4	116	34	96	55	18	13	6	176	596
Northwestern Univ/IL	418	56	25	31	12	14	9	114	3	111	67	80	66	11	11	8	246	664
NC, U of-Chapel Hill	412	100	28	72	19	8	4	115	9	106	75	70	21	4	1	2	344	756
Colorado State Univ	393	31	4	27	5	10	1	199	67	132	43	54	50	8	7	9	144	537
Calif Inst of Tech	392	159	133	26	22	30	15	43	1	42	10	5	108	25	39	12	17	409
Arizona, Univ of	391	58	36	22	23	9	6	118	33	85	57	65	55	8	17	7	223	614
Connecticut, Univ of	372	61	18	43	16	9	6	131	21	110	42	51	56	10	7	13	180	552
Calif, U-Santa Cruz	371	32	16	16	45	12	2	104	4	100	86	84	6	2	1	1	148	519
Rensselaer Poly Ins/NY	364	110	49	61	11	10	6	40	1	39	12	5	170	31	39	25	21	385
Calif, U-Irvine	348	67	31	36	3	13	20	106	2	104	42	75	22	-	14	3	83	431
Boston University/MA	346	30	12	18	11	3	6	85	-	85	59	132	20	1	4	3	258	604
Kansas, Univ of	346	54	17	37	15	8	5	75	3	72	58	73	58	15	13	7	276	622
NC State U-Raleigh	344	44	10	34	8	17	1	112	40	72	10	22	130	24	21	25	61	405
SUNY at Binghamton	335	32	7	25	11	13	15	82	1	81	52	124	6	1	1	1	116	451
Iowa, University of	321	41	23	18	12	8	9	87	4	83	47	65	52	9	10	17	292	613
Columbia Univ/NY	318	52	32	20	10	15	16	57	1	56	45	56	67	16	13	15	176	494
Washington Univ/MO	316	46	29	17	12	13	12	91	3	88	41	53	48	15	12	7	145	461
Nebraska, U-Lincoln	313	31	7	24	-	12	11	120	57	63	50	52	37	4	8	7	264	577
Tenn, U-Knoxville	313	30	12	18	3	7	4	90	39	51	35	50	94	16	17	11	226	539
SUNY at Albany	312	40	8	32	15	8	12	86	5	81	54	88	9	2	2	1	181	493
Johns Hopkins U/MD	311	50	21	29	7	9	13	119	1	118	28	32	53	10	4	3	77	388
Notre Dame, U of/IN	310	47	21	26	13	9	2	78	1	77	37	49	75	19	16	8	117	427
Oberlin College/OH	307	43	19	24	13	12	6	74	3	71	76	74	9	-	4	-	245	552
Pittsburgh, Univ of	302	40	9	31	8	6	6	55	2	53	49	76	62	15	18	9	284	586
LA St U & A&M Coll	295	31	8	23	7	8	3	103	51	52	39	41	63	8	13	13	192	487
Case Western Rsrve/OH	290	79	39	40	9	9	9	34	2	32	21	31	98	21	20	12	99	389
New York University	287	38	14	24	3	8	11	55	2	53	40	127	5	-	1	1	251	538
Rice University/TX	286	68	43	25	12	25	26	41	-	41	19	18	77	24	23	7	51	337
Utah, Univ of	285	48	13	35	11	10	7	53	1	52	44	49	63	13	10	15	227	512
Carleton College/MN	282	79	27	52	28	11	6	81	6	75	40	32	5	-	2	1	73	355
Oklahoma State Univ	278	18	10	8	3	2	8	91	36	55	34	59	63	10	17	8	194	472
Carnegie Mellon U/PA	270	56	36	20	1	6	20	30	-	30	10	17	130	27	35	13	39	309
Georgia, Univ of	267	43	6	37	8	3	4	106	46	60	35	54	14	1	-	-	288	555
San Diego State U/CA	265	30	10	20	6	1	3	50	5	45	52	106	17	1	8	1	180	445
Arizona State Univ	260	35	11	24	4	9	4	65	10	55	40	60	43	7	11	6	225	485
Cincinnati, U of/OH	258	39	6	33	5	2	4	53	3	50	28	56	71	7	14	13	203	461
Puerto Rico, U-Rio Pied	257	81	13	68	3	7	3	56	7	49	53	39	15	4	2	2	297	554
Miami University/OH	256	39	9	30	11	5	-	91	5	86	38	59	13	2	2	-	221	477
William&Mary, Col/VA	255	61	24	37	22	7	5	60	3	57	40	43	17	2	1	-	140	395
Florida State Univ	255	34	20	14	21	10	14	57	4	53	47	62	10	1	2	3	366	621

See footnotes at end of table.

Table 11. Baccalaureate-origin institutions of 10 or more science and engineering (S&E) doctorate recipients, by major field: 1986-1991--continued

		Major field																
		Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(2)				Non-S&E (3)	Total all fields
Institution of baccalaureate(1)	Total S&E	Sub-total	Phys &astr	Chem-istry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
Dartmouth College/NH	251	39	20	19	38	17	9	56	-	56	45	27	20	-	6	4	124	375
Kansas State Univ	251	11	5	6	4	2	2	136	62	74	23	19	54	13	10	10	153	404
CUNY-City College	249	21	7	14	7	6	7	30	3	27	49	81	48	11	16	10	213	462
CUNY-Queens College	247	26	8	18	10	5	9	29	2	27	54	111	3	1	1	-	271	518
Oklahoma, U of	245	26	15	11	9	4	3	52	1	51	41	56	54	13	14	9	193	438
Brandeis Univ/MA	240	27	7	20	2	8	5	59	1	58	45	87	7	-	3	-	111	351
Southern Illinois U	238	23	8	15	5	2	-	88	28	60	48	44	28	1	11	5	288	526
Oregon State Univ	235	25	11	14	12	7	4	131	39	92	17	7	32	5	7	7	94	329
Swarthmore Coll/PA	233	43	30	13	11	7	7	43	-	43	68	36	18	1	7	1	89	322
Auburn University/AL	233	22	10	12	3	8	5	79	28	51	14	37	65	5	13	9	180	413
Georgia Inst of Tech	230	44	22	22	5	5	8	20	2	18	11	3	134	28	34	26	44	274
Syracuse Univ/NY	229	32	8	24	9	6	10	48	1	47	36	50	38	6	11	2	184	413
Illinois, U-Chicago	229	35	7	28	5	10	6	57	2	55	25	28	63	15	13	14	122	351
Vermont, U of	228	28	3	25	14	2	2	97	18	79	19	41	25	2	2	9	92	320
Tufts University/MA	222	25	11	14	9	5	2	47	-	47	30	74	30	5	3	6	93	315
Oregon, Univ of	221	26	8	18	12	6	4	51	5	46	57	59	6	1	2	2	172	393
Calif, U-Riverside	221	24	7	17	18	9	1	78	18	60	41	42	8	2	1	-	79	300
Texas Tech Univ	220	24	9	15	8	5	1	70	37	33	23	39	50	5	21	5	168	388
New Mexico, Univ of	219	41	20	21	12	9	2	41	4	37	40	42	32	9	5	5	154	373
Temple University/PA	208	29	8	21	2	6	2	48	2	46	35	81	5	-	2	1	259	467
Calif St U-Northridge	207	19	9	10	6	5	1	35	-	35	28	100	13	1	3	3	136	343
New Hampshire, U of	204	26	4	22	13	6	-	94	10	84	19	22	24	7	2	3	95	299
Washington State U	204	22	6	16	2	7	5	86	29	57	30	15	37	6	7	4	103	307
Kentucky, Univ of	203	18	2	16	8	6	1	79	31	48	27	26	38	5	12	7	172	375
CUNY-Brooklyn Coll	202	20	3	17	-	4	11	28	-	28	31	108	-	-	-	-	266	468
Southern Calif, U of	202	28	8	20	5	3	5	40	2	38	35	46	40	3	17	2	146	348
West Virginia Univ	200	16	2	14	6	3	1	62	27	35	27	31	54	15	8	11	168	368
Hawaii, Univ of	199	19	7	12	6	6	3	55	7	48	49	36	25	-	10	3	124	323
Rhode Island, U of	197	23	6	17	13	4	3	73	21	52	24	41	16	5	3	4	83	280
Miami, Univ of/FL	195	21	7	14	14	2	2	59	3	56	20	51	26	2	6	2	122	317
Reed College/OR	195	51	18	33	8	12	8	49	3	46	40	17	10	1	2	2	59	254
Geo Washington U/DC	193	12	4	8	3	1	4	36	2	34	59	51	27	1	5	5	118	311
Boston College/MA	192	34	7	27	6	7	3	35	1	34	50	51	6	2	2	-	194	386
Pomona College/CA	188	21	12	9	19	11	3	48	1	47	39	42	5	1	3	-	64	252
Calif St U-Long Beach	187	13	3	10	1	3	2	46	7	39	20	80	22	2	5	6	149	336
Wellesley College/MA	183	19	8	11	10	2	1	48	1	47	41	58	4	1	-	1	151	334
Clemson Univ/SC	183	27	9	18	3	2	3	68	23	45	15	18	47	13	8	3	84	267
Lehigh University/PA	182	32	14	18	12	6	2	29	2	27	9	13	79	23	19	12	30	212
South Florida, U of	182	30	10	20	5	5	2	44	2	42	13	54	29	6	8	2	140	322
San Francisco St U/CA	178	14	4	10	7	3	-	40	3	37	29	81	4	-	3	-	171	349
Wesleyan Univ/CT	175	25	13	12	10	3	8	48	3	45	39	37	5	-	1	2	103	278
Columbia-Barnard/NY	173	6	1	5	4	3	2	49	1	48	37	68	4	1	-	-	121	294
Northeastern U/MA	171	22	7	15	3	4	6	40	2	38	15	23	58	5	20	12	87	258
Smith College/MA	171	14	3	11	7	1	1	58	4	54	43	45	2	1	-	-	148	319
Emory Univ/GA	167	27	6	21	5	2	5	54	1	53	14	57	3	1	1	-	82	249
Houston, U of/TX	166	15	6	9	1	9	4	24	1	23	29	55	29	5	8	6	159	325
Vanderbilt Univ/TN	165	23	12	11	3	3	8	31	-	31	13	42	42	7	12	3	115	280
Arkansas,U-Fayettvlle	165	19	5	14	6	2	3	54	32	22	19	19	43	11	12	5	126	291
Wayne State Univ/MI	164	24	5	19	4	2	4	39	1	38	22	47	22	5	9	3	285	449
Mississippi State U	163	5	1	4	4	5	3	72	37	35	14	11	49	3	14	3	130	293
Georgetown Univ/DC	162	18	7	11	2	1	1	23	2	21	80	35	2	1	1	-	128	290
Humboldt State U/CA	162	15	3	12	23	4	2	84	28	56	12	5	17	1	-	1	49	211
Bucknell Univ/PA	160	32	6	26	7	4	4	34	2	32	23	29	27	6	5	2	77	237
Marquette Univ/WI	160	22	4	18	1	7	2	34	1	33	22	44	28	-	11	4	103	263
Michigan Tech Univ	159	20	6	14	10	5	2	28	9	19	-	-	94	16	12	21	16	175
Wisconsin, U-Milwaukee	159	18	6	12	11	6	2	31	2	29	28	39	24	1	3	7	138	297
Maine, U-Orono	157	16	6	10	7	2	1	75	28	47	15	18	23	7	7	2	72	229
Cal Pol St U-SL Obispo	157	32	6	26	3	3	2	65	32	33	8	5	39	-	8	10	42	199
St Olaf College/MN	156	42	8	34	-	14	2	44	5	39	22	26	6	1	1	-	104	260
Bowling Green St U/OH	154	19	2	17	8	5	8	46	2	44	21	46	1	-	-	-	218	372
Loyola U Chicago/IL	154	29	2	27	-	1	2	41	1	40	14	65	2	-	-	1	135	289
Fordham Univ/NY	152	12	4	8	1	3	2	37	1	36	30	66	1	1	-	-	116	268
Ohio University	152	21	8	3	3	4	-	35	4	31	23	38	28	7	4	6	224	376
Utah State Univ	152	18	10	8	2	8	7	63	36	27	18	14	22	-	4	3	80	232
CUNY-Hunter College	151	9	4	5	4	6	4	24	2	22	30	73	1	-	-	-	257	408
South Carolina, U of	150	23	6	17	10	4	1	32	2	30	31	25	24	5	7	2	181	331
Williams College/MA	149	21	9	12	11	5	4	34	-	34	38	33	3	-	-	-	52	201
Northern Illinois U	149	32	3	29	9	7	2	38	5	33	37	22	2	-	-	-	209	358
Franklin&Marshall/PA	148	41	9	32	16	3	1	27	-	27	18	34	8	-	1	1	38	186
Clark University/MA	146	18	5	13	-	-	1	25	1	24	36	61	5	2	-	-	47	193
Kent State Univ/OH	145	21	13	8	4	1	5	41	4	37	28	42	3	-	-	1	202	347
Montana State Univ	145	24	10	14	8	8	1	47	22	25	16	18	23	8	6	2	67	212
Alabama, Univ of	144	17	7	10	4	3	4	26	2	24	23	32	35	2	4	11	267	411
Vassar College/NY	141	9	5	4	4	5	3	31	2	29	36	51	2	-	-	1	98	239
Missouri, U-Rolla	141	18	8	10	5	3	4	3	1	2	1	3	104	24	16	10	7	148
San Jose State U/CA	140	16	2	14	5	3	2	28	2	26	22	39	25	6	2	2	146	286
Montana, Univ of	139	13	6	7	10	3	3	53	23	30	27	28	2	-	-	-	65	204
New Mexico State U	138	13	5	8	5	3	5	62	37	25	15	11	24	3	13	6	50	188
Calif St U-Fullerton	138	16	5	11	6	3	1	23	-	23	22	66	1	-	-	-	125	263
Akron, U of/OH	136	24	7	17	4	2	1	23	1	22	15	27	40	14	4	13	116	252

See footnotes at end of table.

Table 11. Baccalaureate-origin institutions of 10 or more science and engineering (S&E) doctorate recipients, by major field: 1986-1991--continued

		Major field																
		Physical Sciences			Earth/		Comp/	Agric & Biol Sci					Engineering(2)				Non-	Total
Institution of baccalaureate(1)	Total S&E	Sub-total	Phys &astr	Chem-istry	atmos/ ocean	Math	info sci	Sub-total	Agri sci	Biol sci	Soc sci	Psych	Sub-total	Chem	Elec	Mech	S&E (3)	all fields
Illinois St U-Normal	136	27	2	25	2	4	6	38	8	30	24	33	2	-	-	-	218	354
Texas, U-Arlington	136	23	8	15	2	8	6	27	1	26	15	24	31	-	9	6	70	206
Wyoming, Univ of	136	17	6	11	9	4	1	42	11	31	21	11	31	4	4	7	78	214
Mt Holyoke Coll/MA	135	20	2	18	6	5	-	41	1	40	15	44	4	-	1	-	95	230
Kalamazoo College/MI	133	37	6	31	-	5	3	46	2	44	15	22	5	1	1	2	52	185
Harvey Mudd Coll/CA	132	74	37	37	7	15	4	11	-	11	1	1	19	5	7	3	3	135
Tulane Univ of LA	130	5	2	3	5	6	7	34	1	33	21	28	24	7	5	4	52	182
USAF Academy/CO	130	24	14	10	2	4	6	5	-	5	15	12	62	-	15	3	32	162
Colgate Univ/NY	128	32	7	25	17	1	3	30	2	28	22	22	1	-	-	-	62	190
Drexel University/PA	127	23	9	14	3	2	6	28	2	26	4	3	58	10	11	11	25	152
Dayton, U of/OH	126	17	11	6	2	1	5	32	6	26	13	26	30	7	13	3	81	207
Wheaton College/IL	126	19	5	14	4	4	4	26	4	22	17	49	3	-	1	-	153	279
Amherst College/MA	124	12	8	4	10	3	3	39	2	37	31	21	5	1	2	1	79	203
US Military Academy	124	12	8	4	-	4	8	3	-	3	24	5	68	1	13	10	74	198
Western Michigan U	123	13	4	9	5	7	5	26	2	24	23	36	8	-	2	1	178	301
Wake Forest Univ/NC	122	24	5	19	1	6	2	30	-	30	20	31	8	1	2	1	90	212
Idaho, Univ of	122	15	4	11	7	2	1	50	25	25	6	12	29	8	5	2	62	184
Calif St U-Fresno	121	15	7	8	7	1	4	28	6	22	16	36	14	-	2	2	131	252
Baylor Univ/TX	120	22	7	15	7	1	4	32	3	29	18	35	1	-	-	-	251	371
Union College/NY	119	22	4	18	1	3	5	27	-	27	10	34	17	2	2	3	30	149
Bryn Mawr College/PA	119	17	6	11	6	6	-	36	2	34	34	14	6	2	-	-	81	200
Haverford College/PA	118	17	9	8	7	4	3	37	-	37	24	20	6	1	1	2	48	166
Macalester College/MN	116	12	4	8	6	3	2	26	2	24	34	28	5	-	-	1	66	182
Calif St U-Los Angeles	115	11	2	9	2	3	1	14	1	13	29	50	5	-	1	-	169	284
Occidental College/CA	115	22	7	15	9	2	-	25	-	25	24	28	5	1	1	2	61	176
Grinnell College/IA	114	33	4	29	2	6	3	28	1	27	18	19	5	2	-	2	46	160
Western Washington U	110	24	10	14	12	5	2	20	3	17	20	24	3	-	2	-	84	194
Illinois Inst Tech	108	25	17	8	-	5	7	5	1	4	1	5	60	14	14	12	15	123
American Univ/DC	108	7	3	4	4	2	-	16	1	15	53	26	-	-	-	-	76	184
Colorado College	108	10	3	7	11	2	2	29	1	28	23	27	4	1	1	-	51	159
Calif St U-Sacramento	108	16	2	14	3	5	1	15	2	13	20	34	14	-	3	2	97	205
North Dakota St Univ	106	23	3	20	6	2	-	38	21	17	6	16	15	1	2	4	50	156
Howard University/DC	106	8	1	7	-	2	2	32	1	31	27	26	9	1	6	-	104	210
North Texas, Univ of	106	7	4	3	-	3	5	21	1	20	23	44	3	-	1	1	216	322
Allegheny College/PA	105	29	1	28	12	2	2	33	2	31	8	18	1	1	-	-	43	148
Wooster, Coll of/OH	105	29	3	26	8	5	-	22	1	21	18	20	3	1	-	-	85	190
Clarkson Univ/NY	104	24	4	20	-	4	5	10	-	10	2	1	58	18	8	13	5	109
Calvin College/MI	104	24	8	16	-	3	5	28	3	25	13	23	8	-	4	-	93	197
Hope College/MI	103	43	12	31	4	-	-	26	1	25	7	17	6	1	2	-	41	144
St Louis Univ/MO	103	15	2	13	4	3	3	25	2	23	15	33	5	-	1	-	127	230
Louisville, U of/KY	103	17	4	13	2	5	2	24	2	22	17	13	23	4	4	6	63	166
Indiana Univ of PA	102	24	5	19	5	3	-	34	1	33	13	21	2	-	-	-	161	263
Antioch College/OH	102	8	3	5	4	3	2	27	3	24	24	27	7	2	3	1	49	151
Hofstra Univ/NY	101	8	-	8	1	3	3	23	-	23	11	48	4	1	2	-	63	164
Worcester Poly Inst/MA	100	29	16	13	4	3	1	13	1	12	-	1	49	17	13	8	5	105
St Lawrence Univ/NY	100	11	1	10	10	2	1	39	2	37	13	20	4	-	-	-	37	137
Sthrn Methodist U/TX	100	10	4	6	4	2	-	8	-	8	19	34	23	2	8	3	95	195
Bates College/ME	99	25	8	17	5	3	-	35	1	34	14	12	5	-	-	-	28	127
Middlebury College/VT	97	13	5	8	13	7	2	32	5	27	16	13	1	-	-	-	58	155
Central Florida, U/FL	97	22	7	15	2	4	4	17	-	17	14	18	16	-	5	-	56	153
Toledo, Univ of/OH	96	13	5	8	3	3	2	20	1	19	9	26	20	6	4	3	101	197
Oakland Univ/MI	95	16	7	9	-	2	3	26	1	25	11	23	14	1	1	3	53	148
Muhlenberg College/PA	94	19	4	15	3	3	-	39	2	37	5	22	3	-	-	-	29	123
Cleveland St Univ/OH	92	32	7	25	1	1	3	11	1	10	7	16	21	8	2	5	50	142
Wisconsin, U-Stevens Pt	92	7	2	5	4	-	-	45	16	29	10	21	5	1	-	-	61	153
Holy Cross, Coll of/MA	91	29	5	24	-	3	-	20	-	20	10	26	3	-	-	-	48	139
Calif St U-Chico	91	8	2	6	5	2	-	29	8	21	20	22	5	1	1	1	95	186
New Orleans, U of/LA	88	6	-	6	2	5	7	20	3	17	16	22	10	1	2	3	50	138
Calif St Poly U-Pomona	88	11	4	7	3	2	2	34	12	22	9	12	15	3	6	1	49	137
Mass, U of-Lowell	87	40	12	28	5	1	1	14	-	14	2	5	19	1	3	5	34	121
Central Michigan U	87	16	-	16	-	2	3	31	2	29	16	18	1	1	-	-	131	218
Beloit College/WI	87	12	4	8	9	2	1	19	1	18	28	13	3	1	2	-	36	123
North Dakota, U of	86	13	2	11	2	3	-	18	2	16	14	18	18	2	6	1	61	147
Texas, U-El Paso	86	8	4	4	4	2	1	17	2	15	8	25	21	-	4	4	74	160
Eastern Illinois U	85	12	3	9	1	3	-	43	15	28	11	13	2	-	-	-	124	209
VA Commonwealth U	85	18	2	16	1	2	1	20	1	19	12	29	2	-	-	-	72	157
Manhattan College/NY	84	12	3	9	2	-	3	24	-	24	5	15	23	6	7	1	42	126
St Johns U-Queens/NY	84	8	1	7	1	2	1	26	1	25	11	33	2	-	-	-	97	181
South Dakota State U	84	8	4	4	2	3	-	43	19	24	6	6	16	-	5	1	55	139
Davidson College/NC	84	24	6	18	1	4	-	18	1	17	9	22	6	-	1	1	50	134
Portland State U/OR	84	4	-	4	6	1	2	18	3	15	29	16	8	-	2	3	84	168
Colby College/ME	83	16	6	10	8	2	-	25	1	24	16	14	2	-	-	-	34	117
SUNY College-Oswego	83	20	3	17	4	1	2	21	2	19	12	22	1	-	-	-	68	151
Wichita St Univ/KS	83	15	5	10	-	3	1	14	-	14	15	11	24	2	4	7	88	171
Dickinson College/PA	82	23	9	14	7	2	1	22	1	21	10	15	2	1	-	-	48	130
Wright State Univ/OH	82	14	9	5	1	1	2	24	-	24	8	21	11	-	3	2	46	128
Earlham College/IN	82	9	4	5	8	3	-	27	2	25	14	21	-	-	-	-	44	126
Creighton Univ/NE	82	19	4	15	-	3	-	15	-	15	12	29	4	1	3	-	43	125
Catholic U Amer/DC	82	15	9	6	2	3	1	15	1	14	10	16	20	2	7	3	81	163
Missouri, U-St Louis	80	21	4	17	1	8	-	16	1	15	10	21	3	-	-	1	52	132

See footnotes at end of table.

Table 11. Baccalaureate-origin institutions of 10 or more science and engineering (S&E) doctorate recipients, by major field: 1986-1991--continued

		Major field																
		Physical Sciences			Earth/		Comp/	Agric & Biol Sci					Engineering(2)				Non-	Total
Institution of baccalaureate(1)	Total S&E	Sub-total	Phys &astr	Chem-istry	atmos/ ocean	Math	info sci	Sub-total	Agri sci	Biol sci	Soc sci	Psych	Sub-total	Chem	Elec	Mech	S&E (3)	all fields
Furman Univ/SC	80	30	1	29	5	4	2	10	1	9	11	18	-	-	-	-	81	161
Florida Atlantic U	80	9	4	5	3	1	3	13	-	13	16	22	13	-	1	2	64	144
Colorado Sch of Mines	79	17	10	7	18	2	-	-	-	-	2	-	40	13	4	1	1	80
Puerto Rico, U-Mayaguez	79	15	3	12	2	2	-	29	10	19	5	3	23	3	5	3	27	106
Bowdoin College/ME	78	18	6	12	2	3	1	29	-	29	15	5	5	-	2	-	41	119
Old Dominion Univ/VA	78	8	3	5	8	4	3	15	1	14	13	11	16	1	4	5	95	173
SUNY Envir Sci Frstry	77	11	1	10	6	-	-	53	17	36	1	-	6	1	-	-	5	82
Millersville U of PA	77	16	2	14	8	1	1	32	5	27	7	9	3	1	-	-	75	152
Mass, U-Boston	76	12	2	10	1	2	3	18	1	17	12	26	2	-	1	-	97	173
Fairfield Univ/CT	76	19	4	15	-	3	-	30	1	29	8	15	1	-	1	-	21	97
SUNY College-Oneonta	76	17	1	16	8	1	1	16	-	16	12	17	4	3	-	-	58	134
Ball State Univ/IN	76	9	2	7	2	1	1	13	3	10	19	29	2	-	-	-	183	259
Trinity College/CT	75	18	3	15	1	-	2	18	-	18	9	21	6	-	2	1	30	105
St. Josephs Univ/PA	75	21	3	18	-	2	-	20	-	20	16	16	-	-	-	-	40	115
SW Missouri St Univ	75	15	3	12	-	4	1	19	6	13	9	24	3	-	-	1	110	185
Nevada, Univ of	75	7	2	5	6	3	2	28	6	22	7	12	10	2	2	1	29	104
Denison Univ/OH	74	6	1	5	4	1	3	14	-	14	18	25	3	-	1	1	52	126
Youngstown St U/OH	74	9	1	8	2	1	3	15	-	15	11	20	13	6	4	1	94	168
Denver, Univ of/CO	74	7	4	3	3	2	2	12	2	10	21	23	4	-	2	-	75	149
Alfred University/NY	73	4	2	2	1	-	1	8	1	7	3	8	48	-	-	-	21	94
SUNY College-Potsdam	73	19	3	16	5	1	3	21	-	21	12	8	4	1	1	-	50	123
Villanova Univ/PA	73	18	9	9	1	-	-	27	2	25	5	13	9	3	2	1	79	152
NC, U of-Greensboro	73	10	-	10	1	3	-	14	-	14	16	29	-	-	-	-	117	190
Southern Miss, U of	73	12	2	10	-	1	5	16	2	14	6	30	3	-	1	-	169	242
Southwestern LA, U of	73	6	5	1	3	9	11	12	6	6	6	13	13	-	2	5	58	131
Northern Arizona U	73	16	1	15	6	2	2	27	2	25	6	9	5	-	1	3	85	158
Santa Clara Univ/CA	73	20	6	14	-	8	2	13	-	13	13	9	8	1	2	3	39	112
SUNY Coll-Cortland	72	9	3	6	3	4	1	20	2	18	14	18	3	-	-	-	91	163
SUNY Coll-Plattsburg	72	14	1	13	1	2	-	24	1	23	12	14	5	-	3	-	59	131
Kenyon College/OH	72	20	6	14	-	4	3	19	1	18	16	7	3	1	-	-	39	111
Memphis State U/TN	72	10	4	6	-	-	1	18	1	17	12	23	8	-	3	2	125	197
Hampshire College/MA	71	4	3	1	-	1	1	18	2	16	19	27	1	-	-	1	30	101
Wisconsin, U-Eau Claire	71	25	5	20	5	-	3	16	1	15	5	13	4	1	-	-	76	147
Towson State U/MD	71	9	3	6	2	3	1	17	3	14	15	24	-	-	-	-	87	158
DePauw University/IN	70	14	2	12	2	-	-	12	-	12	14	26	2	-	1	-	71	141
Gustav Adolphus Col/MN	70	20	4	16	4	3	-	16	1	15	5	19	3	-	2	-	35	105
Hamilton College/NY	69	10	4	6	5	3	1	17	1	16	11	19	3	-	-	-	37	106
Lafayette College/PA	69	9	4	5	4	3	-	22	2	20	3	11	17	4	6	3	29	98
La Salle Univ/PA	69	14	5	9	-	1	3	15	2	13	9	24	3	2	-	-	52	121
Scranton, U of/PA	69	16	-	16	-	1	-	32	2	30	4	15	1	-	-	1	31	100
Western Illinois U	69	14	1	13	5	1	-	27	13	14	11	8	3	-	2	-	88	157
Mississippi, Univ of	69	10	5	5	-	3	-	21	2	19	10	12	13	1	4	2	84	153
Tulsa, Univ of/OK	69	5	3	2	2	1	1	5	-	5	12	16	27	4	2	5	67	136
SUNY Coll-Brockport	68	14	3	11	6	2	2	17	1	16	9	18	-	-	-	-	86	154
Juniata College/PA	68	22	2	20	2	1	-	24	3	21	3	13	3	-	-	-	30	98
St Johns Univ/MN	68	18	4	14	3	6	1	22	5	17	6	7	5	1	-	-	39	107
Mass, U of-Dartmouth	67	13	1	12	2	-	1	24	-	24	11	9	7	-	-	2	20	87
Valparaiso Univ/IN	67	13	5	8	1	-	-	13	1	12	11	19	10	1	2	5	65	132
Texas Christian Univ	67	13	3	10	6	-	1	15	-	15	14	18	-	-	-	-	117	184
Radcliffe College/MA	66	3	2	1	-	3	1	17	-	17	22	19	1	-	-	-	63	129
Connecticut College	66	5	-	5	1	2	1	19	1	18	14	21	3	-	1	1	56	122
Fairleigh Dickn U/NJ	66	11	-	11	2	2	2	19	1	18	5	24	1	-	1	-	44	110
Gettysburg College/PA	66	18	7	11	2	1	3	17	5	12	3	17	5	-	1	-	34	100
Providence College/RI	65	10	-	10	1	3	-	19	-	19	7	24	1	-	1	-	31	96
Adelphi Univ/NY	65	6	-	6	2	-	-	18	2	16	10	29	-	-	-	-	96	161
Polytechnic Univ/NY	65	13	5	8	1	4	5	2	-	2	-	1	39	2	15	4	5	70
Wittenberg Univ/OH	65	14	3	11	3	1	1	24	3	21	9	10	3	1	-	-	53	118
South Dakota, U of	65	10	-	10	1	2	3	16	2	14	8	21	4	-	2	-	69	134
Charleston, Coll of/SC	65	22	2	20	1	2	-	23	-	23	6	9	2	-	-	-	22	87
Tennessee Tech U	65	6	2	4	2	1	4	12	8	4	2	4	34	2	8	12	46	111
S F Austin St U/TX	65	8	4	4	1	4	2	34	12	22	3	12	1	-	1	-	71	136
Whitman College/WA	65	19	6	13	3	3	-	16	5	11	13	7	4	-	2	-	25	90
Calif St U-Hayward	65	17	2	15	2	-	4	16	1	15	12	13	1	-	-	-	48	113
SUNY College-Fredonia	64	20	2	18	3	2	1	17	1	16	12	8	1	-	-	-	63	127
Bradley Univ/IL	64	15	1	14	4	1	3	11	1	10	7	14	9	-	2	4	53	117
Knox College/IL	64	12	4	8	6	5	2	19	2	17	10	7	3	1	1	1	35	99
Northern Iowa, U of	64	25	4	21	1	-	1	9	1	8	9	18	1	-	-	-	134	198
Columbia U-Colum C/NY	63	14	11	3	2	3	3	19	2	17	11	7	4	1	-	-	41	104
Stevens Inst Tech/NJ	63	24	13	11	1	6	5	5	-	5	1	1	20	4	4	2	4	67
Lawrence Univ/WI	63	12	4	8	3	1	2	25	4	21	8	10	2	-	2	-	63	126
Georgia State Univ	63	5	1	4	3	2	1	9	1	8	19	24	-	-	-	-	112	175
Rhodes College/TN	63	11	4	7	1	-	2	12	-	12	7	26	4	-	3	1	33	96
Sonoma State Univ/CA	63	12	6	6	3	3	-	8	1	7	17	19	1	-	-	-	25	88
John Carroll Univ/OH	62	12	6	6	1	2	1	21	-	21	12	12	1	-	1	-	33	95
Rose-Hulman Tech/IN	62	19	4	15	-	4	2	2	-	2	1	-	34	12	9	6	2	64
Wisconsin, U-River Falls	62	20	7	13	1	-	1	24	17	7	6	6	4	-	1	-	24	86
Missouri, U-Kans City	62	5	3	2	3	1	1	18	4	14	9	24	1	-	1	-	61	123
New College-S Florida U	62	10	1	9	3	4	1	17	-	17	9	15	3	-	-	-	12	74
Puget Sound, U of/WA	62	15	4	11	5	3	-	18	-	18	6	12	3	-	-	-	35	97
Ohio Wesleyan Univ	61	7	1	6	-	-	2	23	2	21	9	19	1	-	-	-	58	119

See footnotes at end of table.

Table 11. Baccalaureate-origin institutions of 10 or more science and engineering (S&E) doctorate recipients, by major field: 1986-1991--continued

		Major field																
		Physical Sciences						Agric & Biol Sci					Engineering(2)					
Institution of baccalaureate(1)	Total S&E	Sub-total	Phys &astr	Chem-istry	Earth/ atmos/ ocean	Math	Comp/ info sci	Sub-total	Agri sci	Biol sci	Soc sci	Psych	Sub-total	Chem	Elec	Mech	Non-S&E (3)	Total all fields
Xavier Univ/OH	61	17	5	12	1	1	3	13	-	13	8	12	6	-	2	-	28	89
Augustana College/IL	61	19	2	17	4	1	2	16	2	14	8	7	4	-	1	-	42	103
US Naval Academy/MD	61	5	5	-	8	3	2	1	1	-	11	3	28	-	6	8	32	93
Calif, U-San Diego, Med	61	17	6	11	-	1	2	21	-	21	2	14	4	-	2	-	13	74
George Mason U/VA	59	9	3	6	-	3	-	18	-	18	13	14	2	-	2	-	31	90
James Madison U/VA	59	17	3	14	-	-	3	11	1	10	8	17	3	-	-	-	76	135
Louisiana Tech Univ	59	5	2	3	-	1	2	12	5	7	3	8	28	1	5	6	64	123
Cooper Union/NY	58	6	4	2	3	2	5	4	-	4	-	2	36	13	9	7	5	63
Seton Hall Univ/NJ	58	11	2	9	1	1	-	14	2	12	4	26	1	1	-	-	81	139
Eastern Michigan U	58	15	3	12	-	-	1	20	1	19	6	13	3	1	-	-	115	173
Florida Inst of Tech	57	8	4	4	12	-	1	21	2	19	1	2	12	1	5	1	5	62
Northern Colorado, U	57	6	-	6	3	-	1	15	6	9	9	22	1	-	-	-	125	182
N Mexico Mining&Tech	57	16	5	11	11	5	1	6	-	6	2	2	14	3	2	1	1	58
Wabash College/IN	56	15	3	12	1	3	1	26	4	22	3	6	1	-	-	-	16	72
Albright College/PA	55	19	-	19	-	-	1	20	1	19	4	10	1	-	-	-	19	74
St Cloud State U/MN	55	13	1	12	4	-	1	12	2	10	10	13	2	-	-	-	67	122
Hobart&Wm Smith/NY	53	6	1	5	2	-	1	21	1	20	12	10	1	-	-	-	36	89
Wisconsin, U-Oshkosh	53	5	2	3	8	1	2	11	4	7	9	17	-	-	-	-	48	101
Maryland, U-Balt Cnty	53	20	8	12	-	1	-	15	1	14	3	12	2	-	1	-	16	69
Montclair St College/NJ	52	4	1	3	2	4	2	11	1	10	10	17	2	-	1	-	105	157
East Carolina U/NC	52	6	2	4	1	-	3	12	2	10	10	20	-	-	-	-	99	151
Western Kentucky U	52	16	6	10	1	2	-	15	3	12	6	10	2	-	-	-	71	123
Trinity Univ/TX	52	4	-	4	2	-	-	11	1	10	8	25	2	1	1	-	47	99
CUNY-Herbert Lehman	51	3	2	1	1	-	-	13	3	10	11	23	-	-	-	-	52	103
Richmond, U of/VA	51	7	1	6	-	-	1	17	-	17	9	15	2	-	-	-	50	101
Pacific, U of/CA	51	4	2	2	3	-	1	15	-	15	9	17	2	-	-	-	47	98
NC, U of-Charlotte	50	8	2	6	-	3	-	8	-	8	5	14	12	-	5	-	26	76
Abilene Christian U/TX	50	16	7	9	-	2	3	11	3	8	6	11	1	-	1	-	66	116
Loyola Marymont U/CA	50	7	3	4	1	1	-	17	1	16	9	11	4	-	3	-	41	91
Ithaca College/NY	49	17	1	16	-	-	3	12	-	12	9	8	-	-	-	-	63	112
Rochester Inst Tech/NY	49	18	6	12	1	2	-	12	-	12	1	2	13	-	1	5	20	69
Sarah Lawrence Coll/NY	49	1	1	-	-	2	-	6	-	6	15	25	-	-	-	-	45	94
SUNY College-Geneseo	49	10	5	5	2	-	1	18	1	17	10	7	1	-	-	1	60	109
Ursinus College/PA	49	19	4	15	1	2	-	12	-	12	3	4	8	2	1	-	19	68
Loyola University/LA	49	4	3	1	1	4	3	4	-	4	7	25	1	-	1	-	30	79
LIU-Southamptn Col/NY	48	6	-	6	9	-	-	27	1	26	2	3	1	-	-	-	7	55
SUNY College-Purchase	48	8	-	8	-	1	-	12	-	12	8	17	2	1	-	-	22	70
Grove City College/PA	48	9	-	9	-	1	2	13	2	11	7	6	10	2	2	1	39	87
Shippensburg U of PA	48	15	-	15	-	1	-	15	3	12	3	11	3	-	1	-	48	96
DePaul University/IL	48	9	4	5	2	-	1	8	1	7	7	19	2	-	-	1	61	109
Albion College/MI	48	14	4	10	7	1	1	15	1	14	7	3	-	-	-	-	33	81
Arkansas State Univ	48	5	3	2	1	3	3	18	8	10	11	5	2	-	-	-	64	112
Evergreen St Coll/WA	48	3	1	2	7	-	-	16	1	15	11	11	-	-	-	-	18	66
St Bonaventure U/NY	47	2	-	2	-	-	1	16	-	16	8	19	1	-	1	-	34	81
Nebraska, U-Omaha	47	8	1	7	2	1	1	10	1	9	8	16	1	-	-	1	103	150
Canisius College/NY	46	15	1	14	1	1	1	15	-	15	3	10	-	-	-	-	27	73
Drew University/NJ	46	7	-	7	-	1	-	19	3	16	10	8	1	-	-	-	33	79
Mankato State U/MN	46	17	7	10	2	3	1	4	2	2	10	8	1	-	-	-	72	118
South, Univ of/TN	46	8	1	7	2	5	-	16	4	12	5	9	1	-	-	-	29	75
Hendrix College/AR	46	9	3	6	-	6	-	19	2	17	4	7	1	-	-	-	27	73
Detroit Mercy, U/MI	45	4	1	3	-	-	-	4	-	4	7	14	16	2	2	3	60	105
Michigan, U-Dearborn	45	12	5	7	-	1	-	11	-	11	3	8	10	2	2	2	9	54
St Thomas, U of/MN	45	14	1	13	2	1	1	8	1	7	9	9	1	-	-	1	30	75
Drake Univ/IA	45	4	2	2	-	2	-	16	-	16	12	9	2	-	-	-	78	123
Loyola College/MD	45	9	4	5	-	2	2	18	1	17	2	6	6	-	1	1	32	77
Marshall Univ/WV	45	11	3	8	-	-	1	12	1	11	10	8	3	-	2	-	75	120
Eastern Kentucky U	45	8	5	3	-	2	4	17	6	11	6	5	3	-	2	-	58	103
Murray State Univ/KY	45	14	3	11	2	1	-	13	3	10	3	7	5	1	-	-	87	132
Tuskegee Univ/AL	45	1	-	1	-	-	1	34	15	19	2	2	5	-	2	2	62	107
Houghton College/NY	44	12	-	12	1	2	1	14	2	12	6	6	2	1	-	-	34	78
Skidmore College/NY	44	1	-	1	-	-	-	13	-	13	9	20	1	-	-	-	42	86
SUNY Coll-New Paltz	44	2	1	1	1	1	2	8	-	8	12	14	4	1	-	1	49	93
Hiram College/OH	44	7	2	5	-	1	1	17	1	16	3	14	1	-	-	-	31	75
Marietta College/OH	44	13	-	13	-	1	-	12	1	11	10	6	2	-	-	-	21	65
Minnesota, U-Duluth	44	11	1	10	4	-	-	15	-	15	8	3	3	-	2	-	26	70
SE Missouri St Univ	44	7	-	7	-	1	4	11	1	10	5	16	-	-	-	-	83	127
Central Okla, U of	44	5	3	2	-	-	1	4	-	4	3	31	-	-	-	-	73	117
Redlands, U of/CA	44	3	1	2	3	2	-	7	2	5	11	16	2	-	1	-	50	94
Duquesne Univ/PA	43	5	-	5	1	-	-	11	-	11	5	20	1	-	-	-	127	170
Gannon Univ/PA	43	20	3	17	1	2	2	9	1	8	1	4	4	-	1	2	29	72
Andrews Univ/MI	43	12	3	9	-	-	1	16	2	14	4	9	1	-	-	-	46	89
Bemidji State U/MN	43	6	2	4	1	2	-	12	2	10	10	12	-	-	-	-	34	77
Hamline Univ/MN	43	14	1	13	-	1	-	10	-	10	6	12	-	-	-	-	22	65
Luther College/IA	43	8	1	7	-	3	3	14	1	13	6	8	1	1	-	-	83	126
Central Missouri St U	43	5	2	3	1	-	1	13	1	12	6	14	3	-	1	1	79	122
Florida Internat'l U	43	7	1	6	-	-	1	7	1	6	10	14	4	-	1	1	57	100
Idaho State Univ	43	10	2	8	2	3	-	14	-	14	3	9	2	-	-	-	46	89
Siena College/NY	42	7	1	6	-	3	-	16	-	16	4	9	3	2	-	-	14	56
Northern Michigan U	42	5	3	2	-	2	1	10	1	9	8	15	1	1	-	-	49	91
Wisconsin, U-Green Bay	42	7	-	7	3	1	2	12	1	11	8	7	2	-	-	-	18	60

See footnotes at end of table.

Table 11. Baccalaureate-origin institutions of 10 or more science and engineering (S&E) doctorate recipients, by major field: 1986-1991--continued

Institution of baccalaureate(1)	Total S&E	Major field																
		Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(2)				Non-S&E (3)	Total all fields
		Sub-total	Phys &astr	Chem-istry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
Moorhead State U/MN	42	1	-	1	2	3	1	10	5	5	9	14	2	-	1	-	44	86
Alabama, U-Birmingham	42	3	1	2	1	4	-	12	1	11	5	9	8	-	3	1	53	95
Weber State College/UT	42	4	1	3	1	-	-	12	1	11	11	10	4	-	1	1	47	89
San Francisco, U of/CA	42	7	3	4	-	2	2	9	-	9	6	16	-	-	-	-	59	101
Bridgeport, U of/CT	41	5	1	4	-	-	2	8	-	8	9	10	7	-	2	3	32	73
Southern Conn St Univ	41	8	2	6	2	-	-	14	1	13	2	14	1	-	-	-	66	107
LIU-C W Post Cmps/NY	41	3	-	3	2	4	-	11	-	11	3	18	-	-	-	-	29	70
Eckerd College/FL	41	6	1	5	-	2	1	8	-	8	7	16	1	-	-	-	32	73
Lewis & Clark Coll/OR	41	7	2	5	-	1	-	14	2	12	6	11	2	-	-	1	38	79
Calif St Univ-Carson	41	8	2	6	-	-	1	5	-	5	11	13	3	-	2	-	33	74
Simmons College/MA	40	5	-	5	1	-	1	15	-	15	5	13	-	-	-	-	61	101
Le Moyne College/NY	40	9	-	9	-	1	-	16	3	13	6	7	1	-	-	-	29	69
Moravian College/PA	40	8	3	5	1	1	6	10	-	10	7	6	1	1	-	-	17	57
Indiana State Univ	40	5	2	3	-	2	1	6	-	6	11	13	2	-	-	-	106	146
Goucher College/MD	40	8	-	8	-	-	-	6	-	6	9	17	-	-	-	-	36	76
Texas, U-Dallas	40	6	4	2	2	2	2	10	-	10	5	13	-	-	-	-	14	54
Eastern Wash Univ/WA	40	7	3	4	-	1	2	8	3	5	9	12	1	-	-	-	43	83
Phila Col Pharm&Sci/PA	39	10	-	10	1	-	-	28	-	28	-	-	-	-	-	-	14	53
Concordia-Moorhd/MN	39	11	5	6	-	1	2	9	2	7	1	12	3	1	-	-	48	87
Central Univ of Iowa	39	12	3	9	-	3	-	13	-	13	6	5	-	-	-	-	15	54
Western Maryland Coll	39	10	1	9	-	1	1	13	-	13	4	8	2	-	-	-	35	74
NE Louisiana Univ	39	9	2	7	1	1	-	10	2	8	8	9	1	-	-	-	54	93
Dallas, Univ of/TX	39	12	6	6	-	6	-	8	-	8	6	7	-	-	-	-	24	63
Pitzer College/CA	39	2	1	1	-	-	-	9	1	8	11	16	1	-	-	-	20	59
Loma Linda Univ/CA	39	3	1	2	2	-	1	14	2	12	5	14	-	-	-	-	37	76
Northeastern Illinois U	38	3	1	2	2	-	-	5	-	5	10	16	2	-	-	-	56	94
S Dakota Sch Mine&Tech	38	9	2	7	1	1	3	1	-	1	-	-	23	1	5	5	2	40
Guilford College/NC	38	3	1	2	3	2	-	12	1	11	6	12	-	-	-	-	29	67
Pt Loma Naza Coll/CA	38	14	2	12	-	1	-	11	1	10	2	10	-	-	-	-	21	59
Alaska, Univ of	38	5	2	3	4	3	-	11	2	9	6	4	5	-	1	1	18	56
Ohio Northern Univ	37	11	-	11	-	1	-	8	1	7	5	4	8	-	4	-	26	63
S Illinois U/Edwardsvlle	37	11	1	10	-	-	-	5	-	5	5	12	4	-	1	-	70	107
Wisconsin, U-La Crosse	37	11	-	11	-	1	1	10	-	10	8	5	1	-	-	-	62	99
Ft Lewis College/CO	37	15	2	13	2	-	-	12	3	9	4	4	-	-	-	-	12	49
Lebanon Valley Coll/PA	36	13	1	12	2	1	-	8	-	8	3	8	1	-	-	-	30	66
Butler Univ/IN	36	4	-	4	-	1	2	9	-	9	8	9	3	-	1	-	44	80
Manchester College/IN	36	9	-	9	-	1	-	9	-	9	8	7	2	-	1	-	24	60
Grand Valley St U/MI	36	5	-	5	5	-	-	8	1	7	8	9	1	-	-	1	31	67
East Tenn State Univ	36	7	3	4	-	-	-	16	1	15	7	6	-	-	-	-	77	113
St Peters College/NJ	35	4	-	4	-	-	-	12	-	12	6	13	-	-	-	-	25	60
Slippery Rock U/PA	35	3	-	3	1	2	2	18	3	15	5	4	-	-	-	-	74	109
Goshen College/IN	35	8	2	6	-	2	-	14	1	13	1	6	4	1	-	-	37	72
Carroll College/WI	35	7	1	6	1	-	-	13	2	11	3	11	-	-	-	-	22	57
Frostburg St Univ/MD	34	9	1	8	-	1	-	15	2	13	2	6	1	1	-	-	48	82
Berea College/KY	34	9	1	8	1	1	-	7	3	4	12	3	1	-	-	-	49	83
Centre College/KY	34	6	1	5	-	3	-	16	1	15	4	4	1	-	-	1	23	57
Middle Tenn State U	34	2	-	2	-	3	1	14	6	8	7	6	1	-	-	-	61	95
Millsaps College/MS	34	5	-	5	-	1	-	8	-	8	4	14	2	-	1	-	38	72
Texas, U-San Antonio	34	7	-	7	-	-	2	12	-	12	3	10	-	-	-	-	7	41
Bard College/NY	33	2	1	1	-	1	-	9	-	9	8	13	-	-	-	-	23	56
Delaware Valley Coll/PA	33	2	-	2	-	-	-	31	18	13	-	-	-	-	-	-	4	37
West Chester U of PA	33	13	2	11	-	1	-	3	-	3	6	10	-	-	-	-	126	159
Wilkes University/PA	33	8	2	6	2	2	-	7	-	7	3	6	5	-	1	-	31	64
Baldwin-Wallace Col/OH	33	6	-	6	-	1	-	7	-	7	6	12	1	-	1	-	67	100
Hanover College/IN	33	9	4	5	1	1	-	7	1	6	2	12	1	-	-	-	28	61
Wisconsin, U-Plattville	33	6	2	4	3	-	-	12	9	3	3	3	6	-	-	1	15	48
Thomas More Coll/KY	33	11	6	5	-	-	-	13	1	12	1	5	3	-	2	-	19	52
Tenn, U-Chattanooga	33	5	1	4	1	-	1	8	1	7	7	7	4	1	1	2	24	57
South Alabama, U	33	4	-	4	-	5	2	11	-	11	-	8	3	1	-	1	46	79
Oral Roberts Univ/OK	33	7	-	7	-	-	-	8	-	8	6	10	2	1	-	-	34	67
Pacific Lutheran U/WA	33	8	3	5	-	1	2	5	-	5	11	4	2	-	1	-	49	82
Sthern Maine U-Portland	32	2	-	2	2	-	1	2	-	2	8	17	-	-	-	-	30	62
Central Conn St Univ	32	10	2	8	1	-	1	6	1	5	8	6	-	-	-	-	56	88
Wm Paterson Coll of NJ	32	4	1	3	1	1	-	7	-	7	6	13	-	-	-	-	43	75
Ripon College/WI	32	5	-	5	-	2	-	14	2	12	5	4	2	-	1	-	16	48
Nebraska Wesleyan U	32	6	-	6	-	-	1	11	3	8	2	10	2	-	1	-	33	65
Washington&Lee U/VA	32	10	2	8	5	2	-	7	-	7	2	6	-	-	-	-	27	59
NC Ag & Tech St U	32	1	1	-	-	1	-	9	3	6	5	7	9	1	1	2	52	84
Harding Universty/AR	32	3	1	2	1	1	2	3	1	2	5	15	2	-	-	-	64	96
Southwestern Okla St U	32	16	1	15	-	-	-	9	1	8	1	6	-	-	-	-	35	67
Austin College/TX	32	4	1	3	1	1	-	8	-	8	6	10	2	-	-	2	27	59
Boise State Univ/ID	32	4	2	2	-	1	-	10	1	9	7	9	1	-	-	1	37	69
CUNY-Bernard Baruch	31	1	-	1	-	-	-	5	1	4	14	10	1	-	-	-	29	60
Iona College/NY	31	7	1	6	-	-	-	3	-	3	7	14	-	-	-	-	31	62
Roosevelt Univ/IL	31	1	-	1	-	1	1	1	-	1	15	11	1	-	-	-	60	91
Fort Hays State U/KS	31	4	3	1	1	-	-	11	4	7	8	7	-	-	-	-	53	84
Emporia St Univ/KS	31	6	2	4	-	-	1	12	2	10	7	5	-	-	-	-	87	118
Appalachian St U/NC	31	7	3	4	1	1	-	9	1	8	6	7	-	-	-	-	129	160
Georgia Southern U	31	4	-	4	-	-	-	6	-	6	6	13	2	-	-	1	75	106
Spelman College/GA	31	1	-	1	1	2	-	5	-	5	6	15	1	-	-	-	63	94

See footnotes at end of table.

Table 11. Baccalaureate-origin institutions of 10 or more science and engineering (S&E) doctorate recipients, by major field: 1986-1991--continued

Institution of baccalaureate(1)	Total S&E	Physical Sciences Sub-total	Physical Sciences Phys &astr	Physical Sciences Chem-istry	Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci Sub-total	Agric & Biol Sci Agri sci	Agric & Biol Sci Biol sci	Soc sci	Psych	Engineering(2) Sub-total	Engineering(2) Chem	Engineering(2) Elec	Engineering(2) Mech	Non-S&E (3)	Total all fields
Bennington College/VT	30	1	-	1	-	1	-	9	-	9	7	12	-	-	-	-	36	66
New Jersey Inst Tech	30	-	-	-	1	1	1	-	-	-	1	-	26	7	7	3	7	37
Stockton State Coll/NJ	30	12	4	8	4	-	-	6	-	6	2	5	1	-	1	-	9	39
Alma College/MI	30	6	2	4	-	1	-	13	3	10	6	3	1	-	-	-	18	48
Augsburg College/MN	30	16	6	10	1	-	-	6	-	6	3	4	-	-	-	-	33	63
Mary Washington C/VA	30	5	-	5	-	-	-	10	-	10	8	5	2	1	-	-	28	58
Roanoke College/VA	30	7	-	7	-	-	-	7	-	7	9	5	2	1	-	1	9	39
NC, U of-Wilmington	30	8	-	8	2	1	1	8	1	7	2	8	-	-	-	-	10	40
West Florida, U of	30	10	1	9	-	-	2	5	-	5	3	10	-	-	-	-	46	76
Jackson State U/MS	30	5	-	5	-	-	1	12	2	10	8	3	1	-	-	-	47	77
SW Texas State Univ	30	6	1	5	-	3	1	9	1	8	4	7	-	-	-	-	97	127
West Texas State U	30	1	-	1	-	3	1	13	4	9	7	4	1	-	-	-	43	73
Metropolitan St Coll/CO	30	4	2	2	-	1	-	7	-	7	7	8	3	1	1	-	28	58
Stonehill College/MA	29	4	1	3	-	-	1	10	-	10	6	7	1	-	-	1	18	47
Hartford, Univ of/CT	29	5	1	4	-	1	1	7	-	7	4	8	3	-	1	2	34	63
Rider College/NJ	29	4	-	4	-	1	-	10	-	10	5	9	-	-	-	-	22	51
East Stroudsburg U/PA	29	11	2	9	1	1	1	9	-	9	2	3	1	-	-	-	53	82
Kings College/PA	29	14	-	14	-	-	-	4	-	4	4	6	1	-	-	-	27	56
Illinois Wesleyan U	29	7	2	5	-	2	-	8	-	8	3	7	2	-	-	1	47	76
Coe College/IA	29	5	1	4	1	3	2	4	-	4	5	8	1	-	-	-	19	48
Mercer University/GA	29	6	1	5	-	1	-	4	-	4	4	14	-	-	-	-	40	69
Central Arkansas, U	29	7	3	4	-	-	1	9	3	6	5	7	-	-	-	-	58	87
Gonzaga Univ/WA	29	2	-	2	1	2	-	7	2	5	9	7	1	-	-	1	38	67
Walla Walla College/WA	29	3	2	1	-	1	1	13	1	12	3	1	7	-	5	1	33	62
Pacific Union Coll/CA	29	3	1	2	2	-	2	7	1	6	5	8	2	-	1	-	27	56
Merrimack College/MA	28	10	-	10	-	-	-	9	1	8	1	8	-	-	-	-	22	50
St John Fisher Col/NY	28	14	4	10	-	1	-	6	-	6	3	4	-	-	-	-	17	45
Randolph-Macon Coll/VA	28	11	1	10	-	1	-	7	1	6	3	6	-	-	-	-	5	33
Randlph-Macn Womn/VA	28	3	-	3	-	1	-	8	-	8	3	13	-	-	-	-	26	54
Alabama, U-Huntsville	28	3	2	1	-	-	2	12	1	11	2	2	7	1	1	1	19	47
East Texas State U	28	8	4	4	-	-	2	3	1	2	8	6	1	-	-	-	94	122
Yeshiva Univ/NY	27	3	3	-	-	-	-	4	-	4	4	15	1	-	1	-	19	46
Kean Coll of New Jersey	27	8	1	7	2	-	-	4	-	4	3	10	-	-	-	-	49	76
Trenton St College/NJ	27	7	-	7	-	-	-	7	1	6	8	4	1	-	-	-	81	108
Bloomsburg U of PA	27	5	1	4	-	1	-	6	-	6	4	11	-	-	-	-	70	97
Edinboro U of PA	27	3	-	3	-	-	-	9	2	7	5	8	2	-	-	-	63	90
Wash&Jefferson Coll/PA	27	7	-	7	-	-	-	13	-	13	1	4	2	-	-	-	11	38
Muskingum College/OH	27	8	-	8	1	-	1	8	1	7	4	4	1	1	-	-	30	57
St Marys College/IN	27	4	-	4	-	1	-	13	-	13	4	4	1	1	-	-	32	59
Augustana College/SD	27	6	-	6	-	2	1	10	2	8	6	1	1	-	-	-	31	58
Berry College/GA	27	11	-	11	1	-	1	7	3	4	3	2	2	-	-	-	20	47
Tenn, U-Martin	27	5	-	5	-	1	1	16	7	9	2	2	-	-	-	-	34	61
Sam Houston St U/TX	27	4	2	2	2	-	-	8	3	5	7	4	2	-	-	-	56	83
Central Wash Univ	27	2	-	2	4	1	-	6	3	3	5	9	-	-	-	-	51	78
Seattle Univ/WA	27	10	4	6	-	-	-	2	-	2	3	8	4	1	1	-	47	74
Pace University/NY	26	9	-	9	-	1	-	5	-	5	4	7	-	-	-	-	28	54
Clarion U of PA	26	3	-	3	1	1	-	13	1	12	5	2	1	-	1	-	61	87
Susquehanna Univ/PA	26	5	-	5	3	-	1	8	-	8	3	5	1	-	1	-	25	51
Lake Forest College/IL	26	5	2	3	-	2	1	7	-	7	3	7	1	-	-	-	13	39
Bethel College/MN	26	5	1	4	-	-	-	3	1	2	7	11	-	-	-	-	27	53
Pittsburg State U/KS	26	5	1	4	-	1	1	6	-	6	3	8	2	-	-	1	57	83
Virginia Military Inst	26	8	3	5	1	1	-	2	-	2	3	1	10	1	4	1	8	34
Stetson Univ/FL	26	7	1	6	-	1	-	3	-	3	5	9	1	-	-	-	52	78
David Lipscomb U/TN	26	4	-	4	1	2	1	5	-	5	4	8	1	-	-	-	54	80
Texas Womans Univ	26	-	-	-	-	-	-	6	1	5	10	9	1	-	-	-	89	115
Calif St U-Stanislaus	26	5	1	4	1	1	-	6	1	5	4	9	-	-	-	-	20	46
St Michaels College/VT	25	8	1	7	1	-	-	4	1	3	4	7	1	-	-	-	19	44
Bridgewater St Coll/MA	25	2	1	1	5	1	-	12	-	12	2	3	-	-	-	-	37	62
Wheaton College/MA	25	3	-	3	1	-	-	11	-	11	4	6	-	-	-	-	28	53
Rutgers U-Newark/NJ	25	3	1	2	1	1	-	8	1	7	4	7	1	-	1	-	14	39
Mt Union College/OH	25	5	1	4	-	1	1	9	-	9	4	4	1	1		-	19	44
Evansville, U of/IN	25	4	2	2	-	-	-	8	2	6	5	5	3	-	1	2	31	56
Cornell College/IA	25	7	3	4	4	-	1	7	-	7	3	2	1	-	-	-	25	50
Loras College/IA	25	5	1	4	-	-	1	5	-	5	5	8	1	-	1	-	18	43
Alabama Ag&Mech U	25	3	2	1	-	-	-	12	9	3	7	-	3	-	-	1	32	57
Birmngham-Sthrn Col/AL	25	6	2	4	-	-	1	5	-	5	7	4	2	-	1	-	40	65
Lamar University/TX	25	5	3	2	1	1	-	5	1	4	2	4	7	1	1	3	57	82
Seattle Pacific U/WA	25	4	2	2	-	-	-	6	-	6	3	11	1	-	-	-	41	66
Whitworth College/WA	25	4	1	3	-	-	-	9	-	9	3	8	1	-	-	-	22	47
Calif St U-S Bernardino	25	4	-	4	1	-	-	2	-	2	7	11	-	-	-	-	17	42
St Anselm College/NH	24	7	-	7	-	1	-	9	-	9	3	4	-	-	-	-	32	56
Gordon College/MA	24	3	1	2	1	2	-	7	-	7	3	8	-	-	-	-	34	58
Hartwick College/NY	24	4	1	3	1	1	-	13	1	12	3	2	-	-	-	-	14	38
Long Isl U-Brooklyn/NY	24	3	-	3	-	1	-	7	-	7	-	12	1	-	-	-	31	55
Marist College/NY	24	1	-	1	-	1	-	5	1	4	4	12	1	-	-	-	20	44
North Central College/IL	24	3	-	3	-	1	1	9	1	8	4	6	-	-	-	-	14	38
St Norbert College/WI	24	5	-	5	2	2	-	5	-	5	2	6	2	-	-	-	20	44
St Marys College/MN	24	4	1	3	-	-	-	14	-	14	2	2	2	-	-	-	18	42
NE Missouri State U	24	6	1	5	1	3	1	6	1	5	2	5	-	-	-	-	78	102
Washburn U Topeka/KS	24	3	1	2	2	1	-	2	-	2	5	10	1	-	1	-	30	54

See footnotes at end of table.

Table 11. Baccalaureate-origin institutions of 10 or more science and engineering (S&E) doctorate recipients, by major field: 1986-1991--continued

		Major field																
		Physical Sciences						Agric & Biol Sci					Engineering(2)					
Institution of baccalaureate(1)	Total S&E	Sub-total	Phys &astr	Chem-istry	Earth/ atmos/ ocean	Math	Comp/ info sci	Sub-total	Agri sci	Biol sci	Soc sci	Psych	Sub-total	Chem	Elec	Mech	Non-S&E (3)	Total all fields
Hampton Univ/VA	24	2	-	2	-	2	-	4	-	4	4	11	1	-	-	-	72	96
Jacksonville Univ/FL	24	6	2	4	3	-	-	7	1	6	4	4	-	-	-	-	15	39
Arkansas, U-Little Rock	24	5	2	3	-	-	-	7	1	6	2	8	2	-	1	-	18	42
St Marys Univ/TX	24	3	2	1	-	-	-	2	-	2	8	10	1	-	-	-	29	53
Southwestern U/TX	24	5	1	4	1	2	1	3	-	3	2	10	-	-	-	-	14	38
Nevada, U-Las Vegas	24	6	3	3	2	-	-	5	3	2	4	5	2	-	-	-	20	44
Rhode Island College	23	7	-	7	-	-	-	8	1	7	3	5	-	-	-	-	40	63
Lycoming College/PA	23	2	2	-	1	-	1	5	2	3	4	9	1	-	-	-	17	40
Carthage College/WI	23	7	-	7	-	-	-	3	2	1	5	8	-	-	-	-	19	42
Wisconsin, U-Parkside	23	9	-	9	-	-	-	3	-	3	4	5	2	-	1	-	9	32
NW Missouri State U	23	4	1	3	-	-	1	9	5	4	3	4	2	-	1	-	47	70
St Johns College/MD	23	1	-	1	-	2	-	7	-	7	6	7	-	-	-	-	21	44
Wofford College/SC	23	6	1	5	-	1	-	9	-	9	3	3	1	-	-	-	23	46
Fisk University/TN	23	2	-	2	1	-	1	7	-	7	4	8	-	-	-	-	33	56
Southeastern LA U	23	3	-	3	1	1	-	16	6	10	1	1	-	-	-	-	39	62
Clrmont McKenna C/CA	23	-	-	-	1	-	-	6	-	6	8	4	4	-	-	-	11	34
Salem State College/MA	22	6	-	6	1	-	-	5	-	5	6	4	-	-	-	-	28	50
Russell Sage College/NY	22	7	-	7	1	-	-	8	-	8	1	5	-	-	-	-	46	68
Wagner College/NY	22	4	1	3	-	1	1	8	2	6	1	4	3	-	-	1	30	52
Glassboro St Coll/NJ	22	8	-	8	-	-	-	6	-	6	2	6	-	-	-	-	58	80
Thiel College/PA	22	6	-	6	-	1	-	10	-	10	1	3	1	1	-	-	22	44
Capital Univ/OH	22	5	-	5	1	-	-	3	-	3	4	9	-	-	-	-	45	67
Illinois Benedictine Coll	22	8	2	6	-	1	-	8	1	7	-	3	2	1	-	-	12	34
Bethel College/KS	22	3	-	3	-	3	1	4	-	4	5	5	1	-	-	1	17	39
Rollins College/FL	22	5	2	3	-	-	-	10	-	10	3	2	2	1	-	-	24	46
Nicholls State U/LA	22	2	-	2	1	4	1	6	1	5	2	6	-	-	-	-	10	32
Southern Univ/LA	22	3	2	1	1	1	-	5	-	5	5	2	5	-	2	1	52	74
Southrn Nazarene U/OK	22	8	4	4	1	-	1	1	-	1	3	6	2	1	-	-	22	44
Angelo State Univ/TX	22	5	3	2	1	-	2	9	2	7	2	2	1	-	-	-	15	37
Texas A&I U-Kingsville	22	2	-	2	-	-	-	5	2	3	3	7	5	2	1	1	55	77
Adams State College/CO	22	10	1	9	-	-	-	3	1	2	5	3	1	-	-	-	26	48
Colo, U-Colo Springs	22	6	1	5	-	-	1	1	-	1	9	4	1	-	-	-	9	31
Sthrn Oregon St College	22	4	2	2	3	4	-	7	1	6	4	-	-	-	-	-	27	49
Willamette Univ/OR	22	6	2	4	-	-	-	5	-	5	8	3	-	-	-	-	27	49
Chapman College/CA	22	1	1	-	-	-	-	1	-	1	2	18	-	-	-	-	30	52
Whittier College/CA	22	1	-	1	1	-	-	5	-	5	2	12	1	-	-	-	35	57
Framingham St Coll/MA	21	5	-	5	-	-	-	7	1	6	3	6	-	-	-	-	26	47
Springfield College/MA	21	2	-	2	-	-	-	13	2	11	1	5	-	-	-	-	53	74
CUNY-Staten Isl, Coll	21	2	-	2	-	-	1	4	-	4	2	9	3	-	2	-	19	40
Niagara Univ/NY	21	2	-	2	-	1	-	11	-	11	5	2	-	-	-	-	31	52
SUNY-Empire St Coll	21	2	2	-	-	1	-	1	-	1	9	8	-	-	-	-	32	53
Minnesota, U-Morris	21	10	1	9	-	1	2	5	1	4	-	3	-	-	-	-	3	24
Wartburg College/IA	21	4	1	3	1	-	-	8	-	8	2	5	1	-	-	-	20	41
Nebraska, U of-Kearney	21	7	1	6	-	-	-	5	1	4	1	8	-	-	-	-	48	69
Maryland, U, Sch Med	21	1	-	1	1	-	-	11	-	11	4	4	-	-	-	-	36	57
Washington College/MD	21	6	-	6	-	1	2	3	-	3	2	6	1	-	-	-	18	39
Florida Southern College	21	1	-	1	-	1	1	7	3	4	3	7	1	-	-	-	34	55
Morehead State U/KY	21	2	-	2	-	-	1	6	3	3	6	6	-	-	-	-	38	59
Austin Peay St U/TN	21	9	4	5	-	1	-	4	1	3	3	3	1	-	-	-	29	50
Colo, U-Denver Ctr	21	3	1	2	1	3	-	2	-	2	5	6	1	-	-	-	15	36
San Diego, Univ of/CA	21	-		-	-	-	-	6	1	5	5	10	-	-	-	-	23	44
Westmont College/CA	21	3	-	3	-	1	-	3	-	3	5	9	-	-	-	-	30	51
Eastrn Nazarene Coll/MA	20	6	-	6	-	1	-	4	1	3	2	6	1	-	-	-	15	35
CUNY-York College	20	3	-	3	-	2	-	6	-	6	1	8	-	-	-	-	5	25
Elizabethtown Coll/PA	20	3	1	2	1	1	1	3	-	3	6	3	2	-	1	1	17	37
Geneva College/PA	20	4	-	4	-	-	1	4	-	4	3	4	4	-	-	2	25	45
St Vincent College/PA	20	5	2	3	-	4	-	3	-	3	2	6	-	-	-	-	22	42
Northland College/WI	20	6	-	6	2	1	-	7	1	6	1	2	1	-	1	-	2	22
St Benedict, Coll of/MN	20	6	1	5	-	1	-	5	-	5	-	8	-	-	-	-	16	36
Morgan State Univ/MD	20	1	-	1	-	1	-	3	-	3	12	3	-	-	-	-	72	92
Lynchburg College/VA	20	5	1	4	-	-	-	5	-	5	2	8	-	-	-	-	16	36
NC, U of-Asheville	20	9	2	7	-	-	-	3	1	2	4	4	-	-	-	-	19	39
Northern Kentucky U	20	8	-	8	-	1	-	7	-	7	2	2	-	-	-	-	10	30
Southern College/TN	20	3	2	1	-	1	1	7	-	7	2	4	2	-	-	-	29	49
Mississippi Univ Women	20	3	-	3	-	1	-	8	2	6	3	4	1	-	-	-	50	70
Catholic U Puerto Rico	20	8	1	7	-	-	-	3	-	3	1	7	1	-	-	-	21	41
Assumption College/MA	19	2	-	2	-	2	-	3	-	3	6	6	-	-	-	-	12	31
Ramapo Coll of N Jersey	19	2	-	2	-	-	-	4	1	3	1	12	-	-	-	-	10	29
Calif Univ of PA	19	4	-	4	-	-	2	7	2	5	1	4	1	-	-	-	83	102
Kutztown Univ/PA	19	6	-	6	2	1	-	4	-	4	2	3	1	-	-	-	59	78
Lincoln Univ/PA	19	2	1	1	-	-	-	3	-	3	5	7	2	-	-	1	16	35
Olivet Nazarene U/IL	19	4	1	3	1	-	-	4	-	4	2	8	-	-	-	-	38	57
Estrn Mennonite Coll/VA	19	-	-	-	-	1	-	9	3	6	4	5	-	-	-	-	17	36
Wstrn Carolina U/NC	19	7	2	5	1	1	-	7	-	7	1	2	-	-	-	-	58	77
Bob Jones Univ/SC	19	8	3	5	-	2	-	5	-	5	-	2	2	-	1	-	49	68
Citadel, The/SC	19	6	1	5	-	1	-	3	1	2	3	1	5	-	-	-	12	31
Spring Hill College/AL	19	5	-	5	1	-	-	1	-	1	3	8	1	1	-	-	22	41
Arkansas Tech Univ	19	3	-	3	3	1	-	6	1	5	1	5	-	-	-	-	24	43
Eastern New Mexico U	19	-	-	-	1	1	-	7	3	4	5	5	-	-	-	-	42	61
Mills College/CA	19	3	-	3	1	-	-	2	-	2	4	9	-	-	-	-	23	42

See footnotes at end of table.

Table 11. Baccalaureate-origin institutions of 10 or more science and engineering (S&E) doctorate recipients, by major field: 1986-1991--continued

	Major field																	
		Physical Sciences			Earth/		Comp/	Agric & Biol Sci					Engineering(2)				Non-	Total
Institution of baccalaureate(1)	Total S&E	Sub-total	Phys &astr	Chem-istry	atmos/ ocean	Math	info sci	Sub-total	Agri sci	Biol sci	Soc sci	Psych	Sub-total	Chem	Elec	Mech	S&E (3)	all fields
Western Conn St Univ	18	6	-	6	1	-	-	9	1	8	1	1	-	-	-	-	23	41
SUNY College-Buffalo	18	2	-	2	-	-	1	2	-	2	2	9	2	-	2	-	44	62
Monmouth College/NJ	18	7	1	6	1	-	-	3	-	3	-	5	2	-	2	-	22	40
Chestnut Hill College/PA	18	6	-	6	-	-	-	4	-	4	1	7	-	-	-	-	18	36
Lock Haven Univ/PA	18	2	-	2	1	-	1	9	1	8	1	4	-	-	-	-	43	61
Cedarville College/OH	18	6	-	6	-	-	-	6	1	5	1	5	-	-	-	-	25	43
N Park C & Theol Sm/IL	18	2	-	2	1	-	4	5	-	5	2	4	-	-	-	-	22	40
GMI Eng&Mgmt Inst/MI	18	2	2	-	-	-	-	-	-	-	-	1	15	-	5	4	4	22
Wisconsin, U-Whitewater	18	2	1	1	-	-	1	4	-	4	3	7	1	-	-	-	57	75
Rockhurst College/MO	18	6	1	5	-	-	1	3	-	3	3	5	-	-	-	-	9	27
Hastings College/NE	18	4	3	1	-	-	-	6	2	4	4	3	1	-	1	-	22	40
District Columbia, U	18	4	2	2	-	-	-	4	-	4	5	3	2	-	1	1	48	66
Meredith College/NC	18	1	-	1	-	-	1	4	-	4	2	9	1	-	-	-	26	44
Augusta College/GA	18	3	1	2	-	2	-	9	1	8	1	3	-	-	-	-	13	31
Carson-Newman Coll/TN	18	6	1	5	-	1	-	4	-	4	2	5	-	-	-	-	38	56
Northwestern St U/LA	18	-	-	-	-	-	2	7	1	6	2	6	1	-	1	-	66	84
Midwestern St U/TX	18	3	1	2	1	1	-	5	-	5	2	5	1	1	-	-	37	55
Emmanuel College/MA	17	1	1	-	-	1	-	4	-	4	7	4	-	-	-	-	35	52
Manhattanville Coll/NY	17	3	1	2	-	1	-	2	-	2	3	8	-	-	-	-	35	52
St Rose, College of/NY	17	4	-	4	-	1	-	8	-	8	1	2	1	-	-	-	18	35
Pittsburgh, U-Johnstown	17	5	-	5	-	-	-	6	-	6	1	3	2	-	1	1	3	20
Westminster College/PA	17	4	1	3	2	2	-	3	-	3	3	2	1	-	1	-	32	49
Indiana-Purdue U/FtWyne	17	5	2	3	1	-	1	1	-	1	4	5	-	-	-	-	15	32
Michigan, U-Flint	17	6	3	3	-	1	2	5	1	4	3	-	-	-	-	-	14	31
St Catherine, Coll of/MN	17	3	-	3	-	-	-	5	-	5	-	8	1	-	-	-	28	45
Drury College/MO	17	4	1	3	-	1	-	1	-	1	3	8	-	-	-	-	26	43
William Jewell Coll/MO	17	4	2	2	1	-	1	2	-	2	-	9	-	-	-	-	39	56
St Marys College of MD	17	4	1	3	-	-	-	8	-	8	2	1	2	-	2	-	11	28
Agnes Scott College/GA	17	3	1	2	-	-	-	3	-	3	3	7	1	-	-	-	28	45
Georgia College	17	3	-	3	-	-	-	5	1	4	2	5	2	-	-	1	33	50
Morehouse College/GA	17	2	1	1	-	1	-	5	-	5	4	4	1	-	-	-	21	38
North Florida, U of	17	5	-	5	-	-	-	1	-	1	2	9	-	-	-	-	15	32
Tennessee State Univ	17	-	-	-	-	-	-	7	2	5	2	5	3	-	1	1	43	60
Univ North Alabama	17	4	-	4	1	-	-	5	1	4	3	2	2	-	-	-	49	66
Tulane U-Newcmb C/LA	17	2	1	1	1	-	-	1	-	1	6	7	-	-	-	-	24	41
Cameron Univ/OK	17	9	-	9	-	-	-	8	2	6	-	-	-	-	-	-	9	26
Southern Colo, Univ	17	3	1	2	2	2	-	3	1	2	2	5	-	-	-	-	26	43
Biola Univ/CA	17	2	1	1	-	1	-	1	-	1	1	11	1	-	-	-	33	50
New Haven U/CT	16	-	-	-	-	1	-	6	2	4	2	2	5	-	-	3	8	24
New York Inst of Tech	16	6	4	2	-	2	1	-	-	-	1	4	2	-	-	1	6	22
Daemen College/NY	16	2	-	2	-	-	2	5	-	5	3	4	-	-	-	-	13	29
Elmhurst College/IL	16	9	5	4	-	-	-	3	-	3	2	2	-	-	-	-	33	49
Lewis University/IL	16	2	1	1	-	-	1	6	-	6	1	4	2	-	1	-	22	38
Graceland College/IA	16	6	-	6	-	-	-	3	-	3	2	5	-	-	-	-	14	30
Hampden-Sydney C/VA	16	6	1	5	-	1	-	6	-	6	1	2	-	-	-	-	6	22
West VA Wesleyan Coll	16	4	-	4	-	-	-	7	1	6	3	2	-	-	-	-	31	47
Delta State Univ/MS	16	4	1	3	-	1	1	6	3	3	1	3	-	-	-	-	39	55
Texas Lutheran College	16	9	-	9	-	-	-	5	-	5	1	1	-	-	-	-	8	24
Idaho, College of	16	3	-	3	-	-	-	9	-	9	-	3	1	-	1	-	12	28
Southern Utah Univ	16	2	-	2	1	3	-	4	2	2	-	5	1	1	-	-	11	27
Portland, Univ of/OR	16	1	-	1	1	-	-	2	-	2	2	2	8	-	-	4	10	26
Marlboro College/VT	15	-	-	-	-	1	-	8	1	7	1	5	-	-	-	-	6	21
New Sch Soc Rsch/NY	15	1	1	-	-	-	-	3	-	3	6	5	-	-	-	-	6	21
Fairlgh Dickn-Teanck/NJ	15	3	1	2	1	-	2	5	-	5	1	3	-	-	-	-	13	28
Chatham College/PA	15	1	-	1	-	-	-	5	-	5	2	6	1	-	-	-	21	36
St Francis College/PA	15	3	-	3	-	1	-	7	-	7	1	-	3	-	-	-	16	31
Heidelberg College/OH	15	1	-	1	-	1	-	7	-	7	2	1	3	-	1	1	19	34
Adrian College/MI	15	5	-	5	-	-	-	4	-	4	1	4	1	-	-	-	18	33
Aquinas College/MI	15	-	-	-	-	-	-	5	-	5	5	4	1	1	-	-	18	33
Lake Superior St U/MI	15	3	1	2	1	-	-	6	-	6	-	3	2	-	2	-	8	23
Southwest State U/MN	15	4	1	3	1	-	-	4	-	4	4	1	1	1	-	-	3	18
Missouri Sthrn St Coll	15	2	1	1	-	1	1	4	3	1	6	1	-	-	-	-	23	38
Hollins College/VA	15	1	-	1	-	1	1	1	-	1	4	7	-	-	-	-	21	36
NC Central Univ	15	2	1	1	-	-	-	2	-	2	9	1	1	-	-	-	50	65
North Georgia College	15	2	-	2	-	-	-	5	-	5	1	6	1	-	-	-	20	35
Christn Brothrs Coll/TN	15	2	-	2	-	2	-	1	-	1	1	4	5	-	4	1	5	20
Mississippi College	15	6	2	4	-	1	1	3	-	3	-	4	-	-	-	-	86	101
Texas Southern Univ	15	5	1	4	-	-	-	4	-	4	5	1	-	-	-	-	50	65
Western St Coll Colo	15	2	-	2	3	-	-	4	1	3	3	3	-	-	-	-	23	38
Eastern Conn St Univ	14	1	-	1	1	-	-	8	-		3	1	-	-	-	-	8	22
Mt St Vincent, Coll/NY	14	3	-	3	-	-	-	4	1	3	1	6	-	-	-	-	25	39
St Francis College/NY	14	-	-	-	-	-	-	4	-	4	2	8	-	-	-	-	22	36
Upsala College/NJ	14	1	-	1	1	2	-	4	-	4	1	4	1	-	-	-	20	34
Messiah College/PA	14	1	-	1	1	-	-	6	1	5	3	3	-	-	-	-	11	25
Ashland Univ/OH	14	1	-	1	1	2	-	2	-	2	4	3	1	-	-	-	24	38
Otterbein College/OH	14	3	-	3	-	-	-	2	-	2	3	6	-	-	-	-	27	41
Millikin Univ/IL	14	4	-	4	-	-	-	6	1	5	1	3	-	-	-	-	14	28
Monmouth College/IL	14	5	1	4	-	1	1	2	-	2	2	2	1	-	-	-	9	23
St Xavier College/IL	14	2	-	2	-	1	-	2	-	2	4	5	-	-	-	-	19	33
Saginaw Valley St U/MI	14	5	-	5	-	-	-	4	-	4	3	2	-	-	-	-	7	21

See footnotes at end of table.

Table 11. Baccalaureate-origin institutions of 10 or more science and engineering (S&E) doctorate recipients, by major field: 1986-1991--continued

		Major field																
Institution of baccalaureate(1)	Total S&E	Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(2)				Non-S&E (3)	Total all fields
		Sub-total	Phys &astr	Chem-istry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
Evangel College/MO	14	2	-	2	-	-	-	-	-	-	-	11	1	-	-	-	26	40
Salisbury St Univ/MD	14	-	-	-	-	-	-	5	2	3	3	4	2	-	-	-	19	33
St Andrews Presby C/NC	14	4	-	4	-	1	1	4	-	4	2	2	-	-	-	-	16	30
Asbury College/KY	14	1	-	1	-	3	-	3	1	2	1	6	-	-	-	-	23	37
Bellarmine College/KY	14	2	-	2	-	-	-	9	-	9	1	1	1	1	-	-	10	24
Jacksonville St U/AL	14	4	-	4	-	1	-	4	2	2	-	5	-	-	-	-	71	85
Samford Univ/AL	14	1	-	1	-	-	-	2	-	2	2	9	-	-	-	-	77	91
Oklahoma Christian U	14	1	-	1	-	-	-	5	-	5	-	7	1	1	-	-	17	31
St Thomas, U of/TX	14	3	-	3	1	1	-	6	1	5	-	3	-	-	-	-	16	30
Tarleton State U/TX	14	9	-	9	-	-	-	3	2	1	1	1	-	-	-	-	11	25
Regis College/CO	14	2	-	2	-	1	-	1	-	1	4	5	1	-	-	-	7	21
Linfield College/OR	14	4	1	3	-	1	-	1	-	1	4	4	-	-	-	-	10	24
Alaska, U-Anchorage	14	-	-	-	-	1	-	3	-	3	4	6	-	-	-	-	5	19
Goddard College/VT	13	-	-	-	-	-	-	2	-	2	3	8	-	-	-	-	25	38
CUNY-John Jay College	13	-	-	-	-	-	-	1	-	1	11	1	-	-	-	-	6	19
D'Youville College/NY	13	3	-	3	-	-	1	3	1	2	3	3	-	-	-	-	27	40
Elmira College/NY	13	1	-	1	-	-	1	6	-	6	1	3	1	-	-	-	23	36
Mansfield Univ/PA	13	8	4	4	-	1	-	-	-	-	2	2	-	-	-	-	51	64
Seton Hill College/PA	13	1	-	1	-	-	-	1	-	1	2	8	1	-	-	-	22	35
Widener Univ/PA	13	1	-	1	-	-	-	4	-	4	2	4	2	-	-	-	12	25
Rockford College/IL	13	2	-	2	-	-	-	5	-	5	3	3	-	-	-	-	15	28
Winona State Univ/MN	13	4	-	4	1	-	1	5	1	4	-	1	1	-	-	-	20	33
Missouri Western St Coll	13	8	-	8	-	-	-	1	-	1	2	2	-	-	-	-	11	24
Baker Univ/KS	13	2	2	-	-	1	-	4	-	4	2	4	-	-	-	-	9	22
Hood College/MD	13	1	-	1	-	-	-	5	-	5	2	5	-	-	-	-	23	36
Sweet Briar College/VA	13	2	-	2	1	-	-	2	-	2	3	3	2	-	-	-	13	26
Virginia State Univ	13	1	1	-	-	-	-	2	-	2	6	4	-	-	-	-	44	57
Erskine College/SC	13	6	1	5	1	-	-	6	2	4	-	-	-	-	-	-	13	26
Winthrop College/SC	13	1	-	1	-	-	1	4	-	4	6	1	-	-	-	-	46	59
Tampa, Univ of/FL	13	2	-	2	-	-	1	6	-	6	1	2	1	-	1	-	14	27
Troy State Univ/AL	13	2	-	2	1	-	-	2	-	2	2	4	2	-	1	-	55	68
Centenary College/LA	13	2	2	-	1	1	-	3	-	3	1	5	-	-	-	-	18	31
Tex, U-Pan Am, Edinbrg	13	-	-	-	-	1	-	3	-	3	4	5	-	-	-	-	24	37
Carroll College/MT	13	2	1	1	-	1	-	4	-	4	1	3	2	-	-	-	7	20
Montana Minrl Sci&Tech	13	3	-	3	2	-	-	1	-	1	-	-	7	-	1	-	-	13
U S Internatl U/CA	13	1	-	1	-	-	-	-	-	-	3	7	2	-	-	-	20	33
Int Amer U-San Germ/PR	13	7	-	7	-	-	-	-	-	-	2	4	-	-	-	-	20	33
Norwich Univ/VT	12	2	1	1	-	1	1	2	-	2	-	-	6	-	3	2	5	17
Quinnipiac College/CT	12	1	-	1	-	-	-	7	-	7	-	4	-	-	-	-	11	23
Mercy College/NY	12	-	-	-	-	-	1	2	-	2	1	8	-	-	-	-	10	22
Jersey City St Coll/NJ	12	2	-	2	-	-	-	2	1	1	2	6	-	-	-	-	44	56
Rutgers U-Camden/NJ	12	-	-	-	-	-	-	5	-	5	3	4	-	-	-	-	7	19
Taylor University/IN	12	3	-	3	-	-	-	1	-	1	2	6	-	-	-	-	27	39
Principia College/IL	12	4	1	3	-	-	2	4	-	4	1	-	1	-	-	-	16	28
Hillsdale College/MI	12	3	2	1	-	-	-	2	-	2	3	2	2	-	1	-	10	22
Wisconsin, U-Superior	12	2	-	2	-	-	-	2	-	2	5	3	-	-	-	-	22	34
Webster Univ/MO	12	-	-	-	-	-	-	1	1	-	2	9	-	-	-	-	22	34
Doane College/NE	12	2	-	2	-	-	-	6	2	4	2	1	1	-	-	-	12	24
Bowie State Univ/MD	12	-	-	-	-	-	-	2	-	2	5	5	-	-	-	-	20	32
West VA Inst of Tech	12	1	-	1	-	-	-	2	-	2	-	-	9	1	2	1	13	25
Barry Univ/FL	12	3	-	3	-	-	-	3	-	3	2	4	-	-	-	-	18	30
Louisiana College	12	4	-	4	-	-	-	6	-	6	1	1	-	-	-	-	29	41
LA St U-Shreveport	12	4	2	2	-	-	-	3	-	3	-	5	-	-	-	-	8	20
McNeese State U/LA	12	-	-	-	-	2	-	4	1	3	1	1	4	2	1	-	24	36
NW Nazarene Coll/ID	12	3	2	1	-	1	1	3	-	3	2	2	-	-	-	-	22	34
New Mexico Highlnds U	12	2	-	2	-	-	-	-	-	-	2	8	-	-	-	-	16	28
St Johns College/NM	12	1	1	-	1	1	1	2	1	1	2	3	1	-	-	-	11	23
Calif Lutheran Univ	12	-	-	-	-	-	-	6	1	5	3	3	-	-	-	-	7	19
Calif, U-Irvine, Col Med	12	4	1	3	-	-	-	3	-	3	-	5	-	-	-	-	6	18
St Marys College Calif	12	-	-	-	-	1	-	5	-	5	2	3	1	-	1	-	19	31
North Adams St Coll/MA	11	4	1	3	-	1	-	3	-	3	1	2	-	-	-	-	11	22
Dowling College/NY	11	1	1	-	1	-	-	4	-	4	1	3	1	-	-	-	8	19
LIU-Schwartz Pharm/NY	11	-	-	-	-	-	-	1	-	1	1	9	-	-	-	-	7	18
Nazareth Col Rochstr/NY	11	2	1	1	-	-	-	1	-	1	1	7	-	-	-	-	27	38
Pratt Institute/NY	11	1	1	-	-	-	1	3	-	3	2	1	3	-	1	1	9	20
St Josephs College/NY	11	3	-	3	-	-	-	2	-	2	-	6	-	-	-	-	18	29
Syracuse U-Utica/NY	11	1	-	1	1	1	-	6	-	6	1	1	-	-	-	-	11	22
Wells College/NY	11	-	-	-	-	-	-	5	-	5	1	5	-	-	-	-	9	20
Fairlgh Dickn-Madisn/NJ	11	3	-	3	1	-	-	2	-	2	1	4	-	-	-	-	6	17
Georgian Court Coll/NJ	11	1	-	1	-	1	-	2	-	2	4	3	-	-	-	-	12	23
Allentown C St Franc/PA	11	4	1	3	-	-	-	4	-	4	1	2	-	-	-	-	4	15
Marywood College/PA	11	1	-	1	-	-	-	4	-	4	1	5	-	-	-	-	31	42
Anderson Univ/IN	11	-	-	-	-	-	-	3	1	2	4	4	-	-	-	-	32	43
Indiana-Purdue U-Indnpls	11	1	-	1	2	-	-	1	-	1	2	2	3	-	-	-	21	32
Blackburn College/IL	11	1	-	1	-	2	-	2	-	2	2	3	1	-	-	-	8	19
MacMurray College/IL	11	3	1	2	-	-	2	-	-	-	2	4	-	-	-	-	14	25
Quincy College/IL	11	1	-	1	-	-	-	1	-	1	4	5	-	-	-	-	16	27
Lawrence Tech U/MI	11	3	1	2	-	1	-	1	-	1	-	1	5	-	-	3	3	14
St Ambrose Univ/IA	11	3	-	3	-	-	1	2	-	2	1	3	1	-	1	-	15	26
Avila College/MO	11	4	1	3	-	-	-	1	-	1	2	4	-	-	-	-	13	24

See footnotes at end of table.

Table 11. Baccalaureate-origin institutions of 10 or more science and engineering (S&E) doctorate recipients, by major field: 1986-1991--continued

Institution of baccalaureate(1)	Total S&E	Major field																
		Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(2)				Non-S&E (3)	Total all fields
		Sub-total	Phys &astr	Chem-istry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
Minot State Univ/ND	11	3	-	3	-	-	-	3	1	2	2	3	-	-	-	-	16	27
Union College/NE	11	3	2	1	1	-	-	3	-	3	2	2	-	-	-	-	13	24
Benedictine College/KS	11	8	4	4	-	-	-	-	-	-	1	2	-	-	-	-	26	37
McPherson College/KS	11	3	1	2	-	-	-	5	1	4	1	1	1	-	-	-	7	18
Mt St Marys College/MD	11	3	-	3	-	1	-	4	-	4	2	-	1	-	-	1	11	22
Emory & Henry Coll/VA	11	4	2	2	-	-	-	3	-	3	-	3	1	-	-	-	20	31
Bethany College/WV	11	-	-	-	-	1	-	4	1	3	4	2	-	-	-	-	10	21
Warren Wilson Coll/NC	11	-	-	-	-	2	-	5	2	3	2	1	1	-	-	1	6	17
Florida Ag & Mech U	11	2	2	-	-	-	-	4	3	1	3	2	-	-	-	-	39	50
West Fla, U-Panama City	11	3	-	3	-	1	-	2	-	2	2	3	-	-	-	-	9	20
Tougaloo College/MS	11	2	-	2	-	1	-	1	-	1	1	5	1	-	-	-	25	36
Ouachita Baptist U/AR	11	2	-	2	2	-	-	5	-	5	-	1	1	-	-	-	53	64
Xavier Univ/LA	11	3	1	2	-	-	-	3	-	3	1	3	1	1	-	-	25	36
Northeastern St U/OK	11	3	-	3	-	-	-	2	-	2	1	5	-	-	-	-	57	68
Northwestern St U/OK	11	1	-	1	-	-	-	4	1	3	2	3	1	-	-	-	21	32
Oklahoma Baptist Univ	11	1	-	1	-	-	-	4	1	3	3	3	-	-	-	-	77	88
Southeastern Okla St U	11	8	2	6	-	-	-	1	-	1	1	-	1	-	-	-	22	33
Scripps College/CA	11	-	-	-	-	-	-	4	2	2	2	5	-	-	-	-	23	34
La Verne, Univ of/CA	11	-	-	-	-	-	-	2	-	2	4	4	1	-	-	-	19	30
Antioch Coll West/CA	11	-	-	-	-	-	1	1	1	-	1	8	-	-	-	-	4	15
Fitchburg St College/MA	10	2	-	2	-	-	-	5	-	5	-	3	-	-	-	-	30	40
Marymount College/NY	10	1	-	1	-	-	-	5	1	4	-	4	-	-	-	-	13	23
SUNY Coll-Old Westby	10	2	-	2	-	-	-	-	-	-	7	1	-	-	-	-	3	13
Phila Col Textile&Sci/PA	10	5	-	5	-	-	-	1	-	1	-	1	3	-	-	-	6	16
Point Park College/PA	10	-	-	-	1	-	-	-	-	-	3	5	1	-	-	-	10	20
Rosemont College/PA	10	-	-	-	-	-	1	-	-	-	2	7	-	-	-	-	13	23
Mt St Joseph, Coll of/OH	10	2	-	2	1	-	-	3	-	3	3	1	-	-	-	-	14	24
Indiana U-South Bend	10	1	-	1	-	1	-	-	-	-	1	7	-	-	-	-	15	25
Southern Indiana, U	10	2	-	2	1	-	-	3	-	3	1	3	-	-	-	-	2	12
Ferris St Univ/MI	10	1	-	1	1	-	-	4	1	3	1	2	1	-	-	-	24	34
Alverno College/WI	10	1	1	-	-	-	-	1	-	1	2	6	-	-	-	-	26	36
Wisconsin, U-Stout	10	-	-	-	-	-	-	3	1	2	1	4	2	-	1	-	41	51
Park College/MO	10	1	-	1	-	-	1	4	1	3	2	1	1	-	-	-	22	32
Southwest Baptist U/MO	10	3	-	3	-	-	-	2	-	2	1	4	-	-	-	-	41	51
Westminster Coll/MO	10	3	1	2	1	-	-	3	1	2	1	2	-	-	-	-	12	22
Jamestown College/ND	10	2	-	2	-	-	-	3	-	3	3	2	-	-	-	-	13	23
Notre Dame MD, Coll	10	1	-	1	-	-	1	3	-	3	1	4	-	-	-	-	20	30
Bridgewater College/VA	10	3	-	3	-	-	-	3	-	3	2	2	-	-	-	-	13	23
Longwood College/VA	10	2	-	2	-	-	-	5	-	5	1	1	1	1	-	-	22	32
Concord College/WV	10	2	-	2	-	1	-	3	-	3	-	3	1	-	-	1	29	39
Mars Hill College/NC	10	-	-	-	-	1	-	6	-	6	3	-	-	-	-	-	27	37
Pfeiffer College/NC	10	5	2	3	-	1	-	1	-	1	1	2	-	-	-	-	13	23
Presbyterian College/SC	10	-	-	-	-	-	-	3	1	2	1	6	-	-	-	-	17	27
Wesleyan College/GA	10	1	-	1	-	1	-	4	-	4	1	3	-	-	-	-	18	28
Georgetown College/KY	10	3	-	3	-	1	1	3	-	3	1	-	1	-	-	-	18	28
Transylvania U/KY	10	3	-	3	1	-	-	4	-	4	-	2	-	-	-	-	19	29
King College/TN	10	5	1	4	-	-	1	2	-	2	-	2	-	-	-	-	8	18
Oakwood College/AL	10	-	-	-	-	-	-	4	-	4	-	6	-	-	-	-	16	26
Henderson St U/AR	10	4	2	2	-	-	-	1	-	1	-	3	2	-	-	-	25	35
Oklahoma City Univ	10	1	-	1	-	-	-	1	-	1	6	2	-	-	-	-	28	38
Phillips Univ/OK	10	2	-	2	-	2	-	2	-	2	2	2	-	-	-	-	23	33
Eastern Montana College	10	1	-	1	-	2	-	3	1	2	2	2	-	-	-	-	14	24
Calif St U-Bakersfield	10	1	-	1	-	1	-	3	-	3	1	4	-	-	-	-	11	21
Calif, U-San Francisco	10	2	-	2	-	-	-	1	-	1	2	5	-	-	-	-	19	29
Pepperdine Univ/CA	10	-	-	-	-	1	-	2	-	2	1	5	1	1	-	-	25	35

(1) The institutions are ranked according to the number of S&E doctorate recipients who earned a baccalaureate in the U.S. (50 states, D.C., and Puerto Rico) and who provided data on baccalaureate institution. Baccalaureate institution was not known for 5.2 percent of S&E doctorate recipients in 1986-91.

(2) Subtotal includes doctorate recipients whose engineering fields are not separately shown.

(3) Non-S&E doctorate recipients include those whose field of specialization is unknown.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

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Table 12. Science and engineering (S&E) doctorates awarded, by State of high school last attended by recipients and State of doctorate-granting institution(1): 1991

State of high school	State of doctoral institution																
	Total	AL	AK	AZ	AR	CA	CO	CT	DE	DC	FL	GA	HI	ID	IL	IN	IA
Total, all States	12,922	115	5	255	40	1,921	295	212	64	134	305	247	50	26	775	299	179
Alabama	112	39	-	-	1	6	-	1	-	1	8	4	-	-	3	1	1
Alaska	14	-	-	-	-	3	-	-	-	-	-	-	-	-	-	1	1
Arizona	121	1	-	42	1	24	4	2	-	1	-	1	-	-	2	2	-
Arkansas	71	-	-	-	10	7	1	-	-	1	-	1	-	-	3	1	1
California	1,497	2	2	46	-	790	46	13	-	7	14	6	10	4	54	14	6
Colorado	175	-	-	2	-	24	48	2	-	1	1	3	-	-	6	5	1
Connecticut	282	2	-	1	1	21	4	29	1	3	6	4	3	1	5	12	1
Delaware	74	-	-	1	-	7	2	1	13	-	1	3	-	-	5	-	-
Florida	287	6	-	4	1	29	2	7	1	4	82	14	1	-	7	4	1
Georgia	144	3	-	-	1	7	1	-	-	1	7	52	-	-	6	5	1
Hawaii	39	-	-	1	1	8	1	-	-	-	-	-	12	-	1	2	-
Idaho	43	-	-	1	-	8	1	-	-	-	1	-	1	5	1	2	-
Illinois	755	7	-	14	2	71	21	8	3	4	8	1	3	1	250	22	30
Indiana	277	2	-	5	-	17	2	4	1	1	5	7	-	-	30	72	3
Iowa	198	-	-	5	1	16	4	2	-	2	4	3	-	-	17	5	57
Kansas	131	1	-	3	1	9	5	-	-	-	3	2	-	-	4	1	2
Kentucky	100	3	-	-	1	4	1	-	-	1	3	3	-	-	7	4	-
Louisiana	130	2	-	-	1	7	1	1	-	1	3	2	-	-	3	1	1
Maine	56	-	-	1	-	2	-	3	1	-	-	2	1	-	2	1	-
Maryland	367	1	-	7	-	44	4	3	5	15	1	9	-	-	6	10	3
Massachusetts	488	2	-	4	-	69	6	17	1	6	4	6	1	-	16	5	-
Michigan	482	3	-	10	1	60	12	6	1	2	13	5	1	1	30	7	4
Minnesota	341	2	-	9	-	36	12	-	1	2	9	2	-	1	17	10	16
Mississippi	65	1	-	1	-	2	3	-	-	1	2	2	-	1	2	1	-
Missouri	263	3	-	4	4	27	5	-	-	2	7	4	2	1	14	13	7
Montana	51	1	-	1	-	11	3	-	-	-	2	-	-	1	2	-	1
Nebraska	120	1	-	4	2	11	5	1	-	2	2	1	2	-	4	4	5
Nevada	26	-	-	-	-	9	-	1	-	-	-	-	1	-	1	-	1
New Hampshire	86	-	-	1	-	10	1	4	-	1	-	-	-	-	5	-	1
New Jersey	590	5	-	7	1	62	7	18	9	5	13	4	2	1	30	9	1
New Mexico	101	-	-	3	-	15	5	1	-	-	1	2	-	-	8	1	-
New York	1,513	5	-	12	1	149	24	36	2	17	31	17	1	-	58	21	8
North Carolina	235	4	-	3	-	14	2	1	2	5	14	9	-	-	8	7	-
North Dakota	39	-	-	2	1	2	1	-	-	-	-	-	-	-	4	2	3
Ohio	601	4	-	10	1	37	4	5	1	8	12	12	3	2	36	15	5
Oklahoma	127	1	-	2	2	10	3	1	-	1	1	-	-	-	7	1	1
Oregon	134	-	-	5	-	28	3	3	1	2	1	-	1	-	3	1	1
Pennsylvania	809	4	-	14	2	58	9	17	13	12	13	12	1	-	33	16	3
Rhode Island	58	-	-	1	-	7	-	3	-	-	1	2	-	-	3	-	-
South Carolina	89	-	-	1	1	3	3	-	-	2	7	11	-	-	1	-	-
South Dakota	44	-	-	3	-	3	-	-	1	-	-	1	-	-	1	4	2
Tennessee	148	2	-	1	-	11	2	1	2	1	3	6	-	-	9	-	-
Texas	479	2	1	6	-	58	13	6	-	2	1	10	-	-	6	3	1
Utah	65	-	-	1	-	7	4	2	-	-	-	1	-	-	4	2	-
Vermont	42	1	-	-	-	3	-	3	-	-	1	-	1	1	2	1	-
Virginia	304	3	1	2	1	23	6	3	4	10	7	11	-	-	14	2	2
Washington	218	-	1	7	-	48	3	1	-	-	1	2	1	5	12	1	-
West Virginia	61	-	-	-	-	5	2	-	-	-	1	2	-	1	3	1	-
Wisconsin	333	2	-	7	1	28	6	4	-	2	4	6	2	-	24	7	8
Wyoming	27	-	-	1	-	3	2	-	-	-	1	-	-	-	-	-	-
District of Columbia	36	-	-	-	-	4	1	1	1	6	1	2	-	-	3	-	-
Puerto Rico	74	-	-	-	-	4	-	1	-	2	5	-	-	-	3	-	-

See footnote at end of table.

Table 12. Science and engineering (S&E) doctorates awarded, by State of high school last attended by recipients and State of doctorate-granting institution(1): 1991--continued

State of high school	State of doctoral institution																	
	KS	KY	LA	ME	MD	MA	MI	MN	MS	MO	MT	NE	NV	NH	NJ	NM	NY	NC
Total, all States	124	94	128	15	301	655	383	257	90	224	28	65	20	50	255	97	1,197	403
Alabama	-	2	3	-	1	1	-	1	7	1	-	-	-	-	-	-	4	4
Alaska	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-
Arizona	-	-	-	-	1	3	1	1	-	-	-	-	-	-	2	1	5	1
Arkansas	-	1	3	-	1	1	-	-	7	2	-	2	-	1	-	2	1	3
California	5	2	2	-	22	60	28	14	3	10	2	1	9	1	12	7	59	4
Colorado	2	2	1	-	-	7	1	4	1	1	2	4	2	-	1	3	7	3
Connecticut	1	2	3	4	7	34	3	4	2	2	-	1	1	3	9	4	29	9
Delaware	2	2	-	-	-	2	1	1	-	1	-	-	-	-	-	1	6	5
Florida	-	1	5	-	2	13	5	1	3	1	-	1	-	-	4	4	7	14
Georgia	1	3	2	-	4	3	-	1	-	1	-	-	-	1	-	-	5	8
Hawaii	-	-	-	-	-	4	-	1	-	1	-	-	-	-	-	-	2	2
Idaho	-	1	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1	1
Illinois	11	7	4	-	8	22	16	13	4	23	2	2	-	-	5	1	25	13
Indiana	1	4	1	-	7	13	6	7	3	4	-	1	2	-	2	1	11	5
Iowa	4	1	1	-	1	6	4	10	-	3	-	6	-	-	1	1	6	5
Kansas	37	1	-	-	1	3	2	2	-	8	-	3	-	-	-	1	7	3
Kentucky	1	23	1	-	1	4	-	-	4	1	-	-	-	-	-	1	3	8
Louisiana	-	-	47	-	5	2	1	-	3	1	-	1	-	-	1	1	5	4
Maine	1	-	-	5	2	5	3	-	-	1	-	-	-	2	1	-	5	1
Maryland	2	-	4	1	81	13	8	4	1	5	-	-	-	-	7	2	29	23
Massachusetts	3	3	3	-	8	120	16	5	1	7	-	1	-	6	6	2	62	14
Michigan	4	4	2	1	4	16	128	11	2	3	-	2	-	-	6	6	23	6
Minnesota	4	1	-	1	1	10	4	87	3	9	1	3	1	2	4	1	11	5
Mississippi	-	-	4	-	-	-	1	-	21	1	-	-	1	-	1	1	-	3
Missouri	8	3	2	-	2	8	3	3	2	72	-	1	-	-	-	4	9	4
Montana	-	-	1	-	-	3	1	-	-	-	8	-	-	-	1	-	2	1
Nebraska	5	1	1	-	1	-	3	1	-	2	1	21	-	-	-	2	9	4
Nevada	-	-	-	-	1	2	-	1	-	-	-	1	2	-	-	-	-	1
New Hampshire	1	-	-	-	1	15	1	3	-	1	-	-	1	7	-	-	8	2
New Jersey	3	1	7	-	18	30	17	3	2	9	1	-	-	3	86	1	88	20
New Mexico	2	-	-	-	1	3	4	3	1	1	-	1	-	-	1	23	4	1
New York	2	2	6	3	29	105	27	12	2	9	1	4	1	11	44	3	571	31
North Carolina	1	1	1	-	6	7	5	1	5	1	-	-	-	-	1	-	10	74
North Dakota	1	-	-	-	1	-	2	3	-	-	-	-	-	-	-	-	-	-
Ohio	3	10	2	-	13	17	34	6	1	8	-	1	-	2	7	4	25	16
Oklahoma	-	-	1	-	1	-	2	-	-	3	-	-	-	-	2	2	2	2
Oregon	2	-	2	-	1	9	2	4	1	1	-	-	-	-	5	1	6	2
Pennsylvania	1	4	4	-	31	44	13	8	1	14	1	-	-	6	25	2	61	35
Rhode Island	1	-	-	-	2	11	1	1	-	-	-	-	-	1	1	-	6	4
South Carolina	1	1	1	-	1	-	-	-	1	-	-	-	-	-	2	-	1	9
South Dakota	1	-	-	-	-	1	-	2	1	-	2	3	-	-	-	1	-	-
Tennessee	1	3	3	-	-	3	-	2	2	1	-	1	-	1	3	1	4	10
Texas	5	1	7	-	5	9	6	4	1	7	-	1	-	-	4	7	14	7
Utah	-	-	-	-	1	2	2	1	-	1	1	-	-	-	2	-	4	-
Vermont	-	-	1	-	-	3	1	1	-	-	-	-	-	-	-	1	6	2
Virginia	2	3	1	-	15	13	3	3	-	1	1	-	-	-	3	1	18	22
Washington	-	-	-	-	4	7	2	4	-	2	3	-	-	2	1	-	16	2
West Virginia	1	1	1	-	1	2	3	1	-	-	-	-	-	-	1	1	3	1
Wisconsin	3	2	-	-	4	9	14	22	3	4	2	2	-	1	2	1	7	7
Wyoming	-	-	1	-	1	1	1	1	-	-	-	1	-	-	-	1	-	-
District of Columbia	1	1	-	-	1	2	-	-	-	-	-	-	-	-	1	-	1	2
Puerto Rico	-	-	-	-	3	7	6	-	1	1	-	-	-	-	-	1	9	-

See footnote at end of table.

Table 12. Science and engineering (S&E) doctorates awarded, by State of high school last attended by recipients and State of doctorate-granting institution(1): 1991--continued

State of high school	State of doctoral institution																	
	ND	OH	OK	OR	PA	PR	RI	SC	SD	TN	TX	UT	VT	VA	WA	WV	WI	WY
Total, all States	27	464	98	118	609	9	117	114	14	210	708	123	35	296	275	26	344	27
Alabama	-	2	-	-	1	-	-	1	-	10	4	1	-	2	-	-	1	1
Alaska	-	-	-	1	1	-	-	-	-	-	1	-	-	2	1	-	1	-
Arizona	-	3	2	1	1	-	-	1	-	-	10	3	-	-	2	-	2	1
Arkansas	-	1	1	-	1	-	-	1	-	5	11	-	-	1	-	-	1	-
California	1	13	2	28	20	-	9	2	1	6	42	21	1	13	52	1	27	3
Colorado	1	2	-	-	6	-	-	-	-	-	9	5	-	3	7	1	7	-
Connecticut	-	3	3	-	14	-	10	1	-	3	10	3	3	9	6	-	5	-
Delaware	-	1	-	-	9	-	2	-	-	1	1	-	-	2	2	-	2	-
Florida	-	6	1	4	2	-	2	10	-	9	11	2	-	10	3	1	2	-
Georgia	-	3	1	-	3	-	-	6	-	7	5	1	-	3	1	-	1	-
Hawaii	-	1	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-
Idaho	-	1	-	1	1	-	-	2	-	-	3	6	-	-	4	-	-	-
Illinois	1	19	3	11	16	-	-	3	-	11	32	5	-	5	8	1	37	2
Indiana	-	17	2	2	4	-	-	1	-	4	15	1	-	2	4	1	7	-
Iowa	-	3	1	3	4	-	-	2	-	1	7	1	-	-	3	1	7	-
Kansas	-	1	3	2	3	-	-	-	2	3	9	2	-	1	4	-	1	1
Kentucky	-	10	-	-	2	-	1	-	-	6	3	1	-	2	1	-	-	-
Louisiana	-	1	1	-	3	-	2	-	-	4	17	-	-	2	4	-	2	-
Maine	-	1	-	1	-	-	2	-	-	1	2	1	1	3	2	-	3	-
Maryland	-	8	-	-	13	-	3	5	-	4	10	2	-	22	4	1	6	1
Massachusetts	1	9	2	2	23	-	13	1	-	-	14	1	4	10	6	1	6	1
Michigan	-	27	2	6	16	-	2	1	1	4	14	2	1	8	6	1	17	-
Minnesota	11	5	-	1	8	-	1	2	2	4	10	3	-	3	9	-	15	2
Mississippi	-	2	1	-	1	-	-	-	-	4	5	-	-	1	1	-	1	-
Missouri	1	9	5	-	7	-	1	2	-	3	13	-	-	1	4	-	3	-
Montana	-	-	-	2	1	-	-	-	-	1	1	-	-	1	3	-	2	1
Nebraska	-	2	-	2	1	-	-	1	-	2	8	2	-	-	2	-	5	-
Nevada	-	-	-	1	-	-	-	-	-	-	1	3	-	-	-	-	-	-
New Hampshire	-	3	-	-	6	-	5	1	-	1	1	1	1	-	2	-	1	1
New Jersey	-	7	2	2	52	-	9	2	-	6	17	1	3	11	6	1	8	-
New Mexico	-	1	4	-	1	-	-	-	-	-	7	4	-	-	2	-	1	-
New York	-	29	5	8	76	-	18	5	2	9	38	5	6	30	12	2	22	1
North Carolina	-	1	1	1	4	-	3	12	-	8	6	-	-	10	5	-	2	-
North Dakota	5	3	-	-	1	-	-	1	-	-	1	-	-	2	2	-	2	-
Ohio	-	195	-	2	23	-	5	4	-	8	13	6	2	15	6	1	16	1
Oklahoma	-	1	47	2	3	-	1	-	-	2	20	1	-	2	2	-	1	-
Oregon	-	3	-	16	1	-	2	-	-	-	8	2	1	1	11	-	4	-
Pennsylvania	-	30	1	1	223	-	7	8	-	4	24	3	3	28	3	4	11	2
Rhode Island	-	-	-	1	4	-	3	-	-	-	-	-	1	2	1	-	1	-
South Carolina	1	-	-	-	3	-	-	27	-	3	5	-	-	3	1	-	-	-
South Dakota	2	2	-	1	1	-	-	-	5	1	2	2	-	-	-	-	-	2
Tennessee	-	4	-	-	4	-	-	1	-	48	9	-	-	4	4	-	1	-
Texas	-	5	5	1	7	-	1	2	-	5	249	4	1	5	6	-	1	-
Utah	-	1	1	-	2	-	-	-	-	-	3	17	-	1	4	-	1	-
Vermont	-	-	-	-	5	-	2	-	-	-	1	-	4	1	1	-	-	-
Virginia	-	6	1	2	14	-	7	4	-	11	8	1	-	65	8	-	2	-
Washington	-	5	-	11	5	-	2	-	-	3	6	5	-	-	49	-	5	2
West Virginia	-	5	-	-	4	-	-	-	-	5	2	1	-	2	1	8	1	1
Wisconsin	2	7	-	2	4	-	1	2	1	3	9	2	2	6	8	1	99	-
Wyoming	1	-	1	-	-	-	1	1	-	-	2	2	-	-	1	-	-	4
District of Columbia	-	1	-	-	3	-	1	-	-	-	-	-	-	2	-	-	1	-
Puerto Rico	-	5	-	-	2	9	1	2	-	-	8	-	1	-	-	-	3	-

(1) Only S&E doctorate recipients who last attended a high school in the U.S. (50 states, D.C., and Puerto Rico) and who provided data on high school are included in this table. This group represents 54.4 percent of all S&E doctorate recipients.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

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Table 13. Science and engineering (S&E) doctorates awarded, by postgraduate location of definite employment or study commitment, citizenship status, and major field of recipients(1): selected years

Postgraduation plans and citizenship	Major field of doctorate																	
		Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(2)				Non-S&E (3)	Total all fields
	Total S&E	Sub-total	Phys &astr	Chem-istry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
YEAR OF DOCTORATE - 1970																		
Total with definite commitments																		
Total	13,830	2,951	1,182	1,769	396	916	-	3,220	590	2,630	2,404	1,435	2,508	343	601	455	8,766	22,596
U.S. citizens	11,641	2,545	993	1,552	324	793	-	2,674	421	2,253	1,950	1,356	1,999	267	481	383	8,138	19,779
Employment	8,988	1,593	613	980	257	740	-	1,487	377	1,110	1,863	1,161	1,887	254	455	367	7,894	16,882
Study	2,612	947	378	569	67	51	-	1,174	42	1,132	77	189	107	13	24	16	169	2,781
Other, no report	41	5	2	3	-	2	-	13	2	11	10	6	5	-	2	-	75	116
Non-US citizens, ttl	2,174	401	188	213	71	122	-	544	169	375	452	76	508	76	119	72	617	2,791
Employment	1,540	167	79	88	51	101	-	310	130	180	424	57	430	65	108	69	567	2,107
Study	615	230	109	121	20	21	-	228	35	193	25	17	74	11	11	3	37	652
Other, no report	19	4	-	4	-	-	-	6	4	2	3	2	4	-	-	-	13	32
Permanent residents	769	152	60	92	19	38	-	144	25	119	154	30	232	43	56	35	225	994
Employment	557	74	30	44	14	34	-	68	19	49	145	20	202	37	51	34	206	763
Study	206	77	30	47	5	4	-	75	6	69	8	9	28	6	5	1	15	221
Other, no report	6	1	-	1	-	-	-	1	-	1	1	1	2	-	-	-	4	10
Temporary residents	1,405	249	128	121	52	84	-	400	144	256	298	46	276	33	63	37	392	1,797
Employment	983	93	49	44	37	67	-	242	111	131	279	37	228	28	57	35	361	1,344
Study	409	153	79	74	15	17	-	153	29	124	17	8	46	5	6	2	22	431
Other, no report	13	3	-	3	-	-	-	5	4	1	2	1	2	-	-	-	9	22
Unknown citizenship	15	5	1	4	1	1	-	2	-	2	2	3	1	-	1	-	11	26
Commitments in the United States																		
Total	12,026	2,626	1,024	1,602	339	821	-	2,732	427	2,305	1,997	1,311	2,200	303	541	412	7,896	19,922
U.S. citizens	10,765	2,329	894	1,435	301	744	-	2,468	386	2,082	1,793	1,266	1,864	249	454	367	7,617	18,382
Employment	8,448	1,511	573	938	246	702	-	1,394	348	1,046	1,726	1,091	1,778	241	433	354	7,463	15,911
Study	2,302	817	321	496	55	41	-	1,067	38	1,029	64	174	84	8	20	13	122	2,424
Other, no report	15	1	-	1	-	1	-	7	-	7	3	1	2	-	1	-	32	47
Non-US citizens, ttl	1,246	292	129	163	37	76	-	262	41	221	202	42	335	54	86	45	269	1,515
Employment	758	107	52	55	19	65	-	79	17	62	187	28	273	45	76	43	242	1,000
Study	482	183	77	106	18	11	-	183	24	159	14	13	60	9	10	2	23	505
Other, no report	6	2	-	2	-	-	-	-	-	-	1	1	2	-	-	-	4	10
Permanent residents	665	136	51	85	18	32	-	121	17	104	129	26	203	37	51	32	184	849
Employment	475	65	27	38	13	30	-	52	13	39	122	16	177	32	46	31	172	647
Study	186	70	24	46	5	2	-	69	4	65	7	9	24	5	5	1	11	197
Other, no report	4	1	-	1	-	-	-	-	-	-	-	1	2	-	-	-	1	5
Temporary residents	581	156	78	78	19	44	-	141	24	117	73	16	132	17	35	13	85	666
Employment	283	42	25	17	6	35	-	27	4	23	65	12	96	13	30	12	70	353
Study	296	113	53	60	13	9	-	114	20	94	7	4	36	4	5	1	12	308
Other, no report	2	1	-	1	-	-	-	-	-	-	1	-	-	-	-	-	3	5
Unknown citizenship	15	5	1	4	1	1	-	2	-	2	2	3	1	-	1	-	10	25
Commitments outside the United States																		
Total	1,337	248	125	123	51	72	-	395	136	259	306	74	191	25	34	29	527	1,864
U.S. citizens	501	152	73	79	17	27	-	138	20	118	78	46	43	8	5	6	210	711
Employment	219	25	16	9	5	17	-	44	16	28	72	34	22	3	3	3	180	399
Study	282	127	57	70	12	10	-	94	4	90	6	12	21	5	2	3	28	310
Other, no report	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
Non-US citizens, ttl	836	96	52	44	34	45	-	257	116	141	228	28	148	17	29	23	317	1,153
Employment	713	51	22	29	32	35	-	214	105	109	220	24	137	16	28	22	305	1,018
Study	120	44	30	14	2	10	-	43	11	32	8	4	9	1	1	1	6	126
Other, no report	3	1	-	1	-	-	-	-	-	-	-	-	2	-	-	-	6	9
Permanent residents	62	9	5	4	1	5	-	15	6	9	20	1	11	2	1	1	26	88
Employment	48	4	-	4	1	3	-	10	4	6	19	1	10	2	1	1	24	72
Study	14	5	5	-	-	2	-	5	2	3	1	-	1	-	-	-	1	15
Other, no report	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Temporary residents	774	87	47	40	33	40	-	242	110	132	208	27	137	15	28	22	291	1,065
Employment	665	47	22	25	31	32	-	204	101	103	201	23	127	14	27	21	281	946
Study	106	39	25	14	2	8	-	38	9	29	7	4	8	1	1	1	5	111
Other, no report	3	1	-	1	-	-	-	-	-	-	-	-	2	-	-	-	5	8
Unknown citizenship	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commitment location unknown																		
Total	467	77	33	44	6	23	-	93	27	66	101	50	117	15	26	14	343	810
U.S. citizens	375	64	26	38	6	22	-	68	15	53	79	44	92	10	22	10	311	686
Employment	321	57	24	33	6	21	-	49	13	36	65	36	87	10	19	10	251	572
Study	28	3	-	3	-	-	-	13	-	13	7	3	2	-	2	-	19	47
Other, no report	26	4	2	2	-	1	-	6	2	4	7	5	3	-	1	-	41	67
Non-US citizens, ttl	92	13	7	6	-	1	-	25	12	13	22	6	25	5	4	4	31	123
Employment	69	9	5	4	-	1	-	17	8	9	17	5	20	4	4	4	20	89
Study	13	3	2	1	-	-	-	2	-	2	3	-	5	1	-	-	8	21
Other, no report	10	1	-	1	-	-	-	6	4	2	2	1	-	-	-	-	3	13
Permanent residents	42	7	4	3	-	1	-	8	2	6	5	3	18	4	4	2	15	57
Employment	34	5	3	2	-	1	-	6	2	4	4	3	15	3	4	2	10	44
Study	6	2	1	1	-	-	-	1	-	1	-	-	3	1	-	-	3	9
Other, no report	2	-	-	-	-	-	-	1	-	1	1	-	-	-	-	-	2	4
Temporary residents	50	6	3	3	-	-	-	17	10	7	17	3	7	1	-	2	16	66
Employment	35	4	2	2	-	-	-	11	6	5	13	2	5	1	-	2	10	45
Study	7	1	1	-	-	-	-	1	-	1	3	-	2	-	-	-	5	12
Other, no report	8	1	-	1	-	-	-	5	4	1	1	1	-	-	-	-	1	9
Unknown citizenship	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1

See footnotes at end of table.

Table 13. Science and engineering (S&E) doctorates awarded, by postgraduate location of definite employment or study commitment, citizenship status, and major field of recipients(1): selected years--continued

Postgraduation plans and citizenship	Major field of doctorate																	
		Physical Sciences			Earth/		Comp/	Agric & Biol Sci					Engineering(2)				Non-	Total
	Total S&E	Sub-total	Phys &astr	Chem-istry	atmos/ ocean	Math	info sci	Sub-total	Agri sci	Biol sci	Soc sci	Psych	Sub-total	Chem	Elec	Mech	S&E (3)	all fields
YEAR OF DOCTORATE - 1980																		
Total with definite commitments																		
Total	12,617	1,896	717	1,179	486	541	160	3,443	634	2,809	2,172	2,085	1,834	217	356	275	9,303	21,920
U.S. citizens	10,158	1,515	554	961	412	416	118	2,919	413	2,506	1,733	2,013	1,032	113	217	150	8,479	18,637
Employment	6,873	865	276	589	292	371	109	1,032	340	692	1,609	1,641	954	106	203	141	8,166	15,039
Study	3,259	647	277	370	120	44	9	1,879	71	1,808	119	365	76	7	14	8	270	3,529
Other, no report	26	3	1	2	-	1	-	8	2	6	5	7	2	-	-	1	43	69
Non-US citizens, ttl	2,453	379	162	217	74	125	42	524	221	303	437	71	801	104	139	125	811	3,264
Employment	1,734	153	59	94	43	97	38	303	185	118	398	55	647	87	111	101	730	2,464
Study	697	225	102	123	30	26	4	211	31	180	36	16	149	17	27	24	64	761
Other, no report	22	1	1	-	1	2	-	10	5	5	3	-	5	-	1	-	17	39
Permanent residents	623	100	36	64	19	40	11	113	21	92	86	31	223	34	43	41	192	815
Employment	455	56	19	37	9	31	11	34	14	20	78	25	211	32	41	38	173	628
Study	168	44	17	27	10	9	-	79	7	72	8	6	12	2	2	3	16	184
Other, no report	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3
Temporary residents	1,830	279	126	153	55	85	31	411	200	211	351	40	578	70	96	84	619	2,449
Employment	1,279	97	40	57	34	66	27	269	171	98	320	30	436	55	70	63	557	1,836
Study	529	181	85	96	20	17	4	132	24	108	28	10	137	15	25	21	48	577
Other, no report	22	1	1	-	1	2	-	10	5	5	3	-	5	-	1	-	14	36
Unknown citizenship	6	2	1	1	-	-	-	-	-	-	2	1	1	-	-	-	13	19
Commitments in the United States																		
Total	10,886	1,713	632	1,081	425	476	145	2,938	421	2,517	1,751	1,918	1,520	193	312	232	8,035	18,921
U.S. citizens	9,516	1,437	522	915	385	399	113	2,726	388	2,338	1,614	1,868	974	106	202	143	7,778	17,294
Employment	6,479	840	267	573	275	360	105	973	323	650	1,504	1,514	908	101	189	135	7,531	14,010
Study	3,014	595	255	340	110	38	8	1,745	63	1,682	106	348	64	5	13	7	217	3,231
Other, no report	23	2	-	2	-	1	-	8	2	6	4	6	2	-	-	1	30	53
Non-US citizens, ttl	1,366	274	109	165	40	77	32	212	33	179	137	49	545	87	110	89	251	1,617
Employment	804	85	31	54	16	60	28	44	19	25	118	36	417	70	88	67	214	1,018
Study	555	188	77	111	24	16	4	166	14	152	18	13	126	17	21	22	36	591
Other, no report	7	1	1	-	-	1	-	2	-	2	1	-	2	-	1	-	1	8
Permanent residents	552	94	33	61	18	34	10	98	15	83	70	30	198	32	38	37	159	711
Employment	402	53	19	34	8	29	10	27	10	17	64	24	187	30	36	34	146	548
Study	150	41	14	27	10	5	-	71	5	66	6	6	11	2	2	3	12	162
Other, no report	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Temporary residents	814	180	76	104	22	43	22	114	18	96	67	19	347	55	72	52	92	906
Employment	402	32	12	20	8	31	18	17	9	8	54	12	230	40	52	33	68	470
Study	405	147	63	84	14	11	4	95	9	86	12	7	115	15	19	19	24	429
Other, no report	7	1	1	-	-	1	-	2	-	2	1	-	2	-	1	-	-	7
Unknown citizenship	4	2	1	1	-	-	-	-	-	-	-	1	1	-	-	-	6	10
Commitments outside the United States																		
Total	1,237	141	70	71	46	46	9	400	184	216	326	47	222	15	20	32	630	1,867
U.S. citizens	289	51	20	31	14	5	2	121	14	107	50	27	19	2	4	3	130	419
Employment	106	4	1	3	7	-	1	21	7	14	46	19	8	-	3	2	107	213
Study	183	47	19	28	7	5	1	100	7	93	4	8	11	2	1	1	23	206
Other, no report	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-US citizens, ttl	947	90	50	40	32	41	7	279	170	109	275	20	203	13	16	29	495	1,442
Employment	821	58	25	33	25	32	7	241	153	88	256	18	184	13	13	28	464	1,285
Study	113	32	25	7	6	8	-	32	14	18	17	2	16	-	3	1	21	134
Other, no report	13	-	-	-	1	1	-	6	3	3	2	-	3	-	-	-	10	23
Permanent residents	33	4	3	1	1	4	-	9	5	4	11	-	4	-	-	-	18	51
Employment	22	1	-	1	1	2	-	5	3	2	10	-	3	-	-	-	15	37
Study	11	3	3	-	-	2	-	4	2	2	1	-	1	-	-	-	2	13
Other, no report	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Temporary residents	914	86	47	39	31	37	7	270	165	105	264	20	199	13	16	29	477	1,391
Employment	799	57	25	32	24	30	7	236	150	86	246	18	181	13	13	28	449	1,248
Study	102	29	22	7	6	6	-	28	12	16	16	2	15	-	3	1	19	121
Other, no report	13	-	-	-	1	1	-	6	3	3	2	-	3	-	-	-	9	22
Unknown citizenship	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	5	5
Commitment location unknown																		
Total	494	42	15	27	15	19	6	105	29	76	95	120	92	9	24	11	638	1,132
U.S. citizens	353	27	12	15	13	12	3	72	11	61	69	118	39	5	11	4	571	924
Employment	288	21	8	13	10	11	3	38	10	28	59	108	38	5	11	4	528	816
Study	62	5	3	2	3	1	-	34	1	33	9	9	1	-	-	-	30	92
Other, no report	3	1	1	-	-	-	-	-	-	-	1	1	-	-	-	-	13	16
Non-US citizens, ttl	140	15	3	12	2	7	3	33	18	15	25	2	53	4	13	7	65	205
Employment	109	10	3	7	2	5	3	18	13	5	24	1	46	4	10	6	52	161
Study	29	5	-	5	-	2	-	13	3	10	1	1	7	-	3	1	7	36
Other, no report	2	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	6	8
Permanent residents	38	2	-	2	-	2	1	6	1	5	5	1	21	2	5	4	15	53
Employment	31	2	-	2	-	-	1	2	1	1	4	1	21	2	5	4	12	43
Study	7	-	-	-	-	2	-	4	-	4	1	-	-	-	-	-	2	9
Other, no report	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Temporary residents	102	13	3	10	2	5	2	27	17	10	20	1	32	2	8	3	50	152
Employment	78	8	3	5	2	5	2	16	12	4	20	-	25	2	5	2	40	118
Study	22	5	-	5	-	-	-	9	3	6	-	1	7	-	3	1	5	27
Other, no report	2	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	5	7
Unknown citizenship	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2	3

See footnotes at end of table.

Table 13. Science and engineering (S&E) doctorates awarded, by postgraduate location of definite employment or study commitment, citizenship status, and major field of recipients(1): selected years--continued

Postgraduation plans and citizenship	Total S&E	Physical Sciences Sub-total	Physical Sciences Phys &astr	Physical Sciences Chem-istry	Earth/atmos/ocean	Math	Comp/info sci	Agric & Biol Sci Sub-total	Agric & Biol Sci Agri sci	Agric & Biol Sci Biol sci	Soc sci	Psych	Engineering(2) Sub-total	Engineering(2) Chem	Engineering(2) Elec	Engineering(2) Mech	Non-S&E (3)	Total all fields
YEAR OF DOCTORATE - 1990																		
Total with definite commitments																		
Total	14,506	2,348	879	1,469	496	541	458	3,832	706	3,126	1,900	2,097	2,834	409	609	461	8,896	23,402
U.S. citizens	10,045	1,594	508	1,086	381	262	265	2,837	409	2,428	1,301	1,980	1,425	253	292	211	7,729	17,774
Employment	6,207	762	191	571	238	204	237	787	278	509	1,188	1,564	1,227	212	257	184	7,320	13,527
Study	3,813	831	317	514	143	58	28	2,045	129	1,916	103	409	196	41	35	25	352	4,165
Other, no report	25	1	-	1	-	-	-	5	2	3	10	7	2	-	-	2	57	82
Non-US citizens, ttl	4,429	752	371	381	115	276	190	986	293	693	594	115	1,401	155	315	249	1,154	5,583
Employment	2,562	196	85	111	58	184	161	334	186	148	517	70	1,042	112	267	175	1,006	3,568
Study	1,837	551	285	266	55	91	29	647	103	544	72	44	348	42	46	72	136	1,973
Other, no report	30	5	1	4	2	1	-	5	4	1	5	1	11	1	2	2	12	42
Permanent residents	643	99	39	60	13	23	30	141	20	121	93	43	201	31	40	28	272	915
Employment	394	40	9	31	9	16	27	30	10	20	83	27	162	25	35	21	237	631
Study	246	59	30	29	4	6	3	110	10	100	10	16	38	6	5	7	31	277
Other, no report	3	-	-	-	-	1	-	1	-	1	-	-	1	-	-	-	4	7
Temporary residents	3,786	653	332	321	102	253	160	845	273	572	501	72	1,200	124	275	221	882	4,668
Employment	2,168	156	76	80	49	168	134	304	176	128	434	43	880	87	232	154	769	2,937
Study	1,591	492	255	237	51	85	26	537	93	444	62	28	310	36	41	65	105	1,696
Other, no report	27	5	1	4	2	-	-	4	4	-	5	1	10	1	2	2	8	35
Unknown citizenship	32	2	-	2	-	3	3	9	4	5	5	2	8	1	2	1	13	45
Commitments in the United States																		
Total	11,875	1,941	683	1,258	405	423	377	3,149	443	2,706	1,460	1,975	2,145	341	467	343	7,851	19,726
U.S. citizens	9,369	1,459	441	1,018	347	250	250	2,634	376	2,258	1,201	1,898	1,330	236	270	199	7,307	16,676
Employment	5,933	742	183	559	229	198	231	744	259	485	1,109	1,499	1,181	206	247	179	6,958	12,891
Study	3,419	717	258	459	118	52	19	1,886	116	1,770	85	394	148	30	23	19	308	3,727
Other, no report	17	-	-	-	-	-	-	4	1	3	7	5	1	-	-	1	41	58
Non-US citizens, ttl	2,490	481	242	239	58	172	125	509	66	443	257	77	811	104	195	144	539	3,029
Employment	1,231	99	44	55	19	102	104	52	14	38	225	42	588	76	165	98	470	1,701
Study	1,252	380	198	182	37	70	21	457	52	405	32	34	221	28	29	46	66	1,318
Other, no report	7	2	-	2	2	-	-	-	-	-	-	1	2	-	1	-	3	10
Permanent residents	502	73	29	44	9	19	25	101	9	92	76	38	161	27	33	24	206	708
Employment	315	29	8	21	6	13	23	18	3	15	69	25	132	23	30	19	181	496
Study	186	44	21	23	3	6	2	83	6	77	7	13	28	4	3	5	23	209
Other, no report	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	3
Temporary residents	1,988	408	213	195	49	153	100	408	57	351	181	39	650	77	162	120	333	2,321
Employment	916	70	36	34	13	89	81	34	11	23	156	17	456	53	135	79	289	1,205
Study	1,066	336	177	159	34	64	19	374	46	328	25	21	193	24	26	41	43	1,109
Other, no report	6	2	-	2	2	-	-	-	-	-	-	1	1	-	1	-	1	7
Unknown citizenship	16	1	-	1	-	1	2	6	1	5	2	-	4	1	2	-	5	21
Commitments outside the United States																		
Total	1,980	296	153	143	70	92	59	513	230	283	377	43	530	51	104	84	682	2,662
U.S. citizens	404	101	56	45	22	7	10	129	26	103	63	12	60	13	12	6	137	541
Employment	118	8	4	4	-	3	3	27	16	11	49	10	18	2	2	1	119	237
Study	285	92	52	40	22	4	7	102	10	92	14	2	42	11	10	5	17	302
Other, no report	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	2
Non-US citizens, ttl	1,564	195	97	98	48	83	48	381	201	180	312	30	467	38	92	78	538	2,102
Employment	1,172	79	32	47	37	63	44	268	163	105	272	24	385	28	82	65	475	1,647
Study	378	115	65	50	11	20	4	109	34	75	36	6	77	9	9	13	58	436
Other, no report	14	1	-	1	-	-	-	4	4	-	4	-	5	1	1	-	5	19
Permanent residents	76	13	7	6	2	3	3	20	8	12	14	2	19	1	2	2	38	114
Employment	49	4	-	4	2	3	2	10	7	3	11	1	16	-	2	2	34	83
Study	27	9	7	2	-	-	1	10	1	9	3	1	3	1	-	-	4	31
Other, no report	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Temporary residents	1,488	182	90	92	46	80	45	361	193	168	298	28	448	37	90	76	500	1,988
Employment	1,123	75	32	43	35	60	42	258	156	102	261	23	369	28	80	63	441	1,564
Study	351	106	58	48	11	20	3	99	33	66	33	5	74	8	9	13	54	405
Other, no report	14	1	-	1	-	-	-	4	4	-	4	-	5	1	1	-	5	19
Unknown citizenship	12	-	-	-	-	2	1	3	3	-	2	1	3	-	-	-	7	19
Commitment location unknown																		
Total	651	111	43	68	21	26	22	170	33	137	63	79	159	17	38	34	363	1,014
U.S. citizens	272	34	11	23	12	5	5	74	7	67	37	70	35	4	10	6	285	557
Employment	156	12	4	8	9	3	3	16	3	13	30	55	28	4	8	4	243	399
Study	109	22	7	15	3	2	2	57	3	54	4	13	6	-	2	1	27	136
Other, no report	7	-	-	-	-	-	-	1	1	-	3	2	1	-	-	1	15	22
Non-US citizens, ttl	375	76	32	44	9	21	17	96	26	70	25	8	123	13	28	27	77	452
Employment	159	18	9	9	2	19	13	14	9	5	20	4	69	8	20	12	61	220
Study	207	56	22	34	7	1	4	81	17	64	4	4	50	5	8	13	12	219
Other, no report	9	2	1	1	-	1	-	1	-	1	1	-	4	-	-	2	4	13
Permanent residents	65	13	3	10	2	1	2	20	3	17	3	3	21	3	5	2	28	93
Employment	30	7	1	6	1	-	2	2	-	2	3	1	14	2	3	-	22	52
Study	33	6	2	4	1	-	-	17	3	14	-	2	7	1	2	2	4	37
Other, no report	2	-	-	-	-	1	-	1	-	1	-	-	-	-	-	-	2	4
Temporary residents	310	63	29	34	7	20	15	76	23	53	22	5	102	10	23	25	49	359
Employment	129	11	8	3	1	19	11	12	9	3	17	3	55	6	17	12	39	168
Study	174	50	20	30	6	1	4	64	14	50	4	2	43	4	6	11	8	182
Other, no report	7	2	1	1	-	-	-	-	-	-	1	-	4	-	-	2	2	9
Unknown citizenship	4	1	-	1	-	-	-	-	-	-	1	1	1	-	-	1	1	5

See footnotes at end of table.

Table 13. Science and engineering (S&E) doctorates awarded, by postgraduate location of definite employment or study commitment, citizenship status, and major field of recipients(1): selected years--continued

Postgraduation plans and citizenship	Major field of doctorate																	
	Total S&E	Physical Sciences			Earth/ atmos/ ocean	Math	Comp/ info sci	Agric & Biol Sci			Soc sci	Psych	Engineering(2)				Non-S&E (3)	Total all fields
		Sub-total	Phys &astr	Chemistry				Sub-total	Agri sci	Biol sci			Sub-total	Chem	Elec	Mech		
YEAR OF DOCTORATE - 1991																		
Total with definite commitments																		
Total	14,988	2,395	911	1,484	543	598	500	3,975	653	3,322	2,012	2,110	2,855	414	647	443	9,094	24,082
U.S. citizens	10,048	1,536	518	1,018	411	297	259	2,828	365	2,463	1,321	1,997	1,399	245	299	202	7,786	17,834
Employment	6,027	686	187	499	232	226	222	760	248	512	1,181	1,542	1,178	213	263	176	7,386	13,413
Study	3,999	847	330	517	179	70	37	2,062	117	1,945	137	447	220	32	36	26	332	4,331
Other, no report	22	3	1	2	-	1	-	6	-	6	3	8	1	-	-	-	68	90
Non-US citizens, ttl	4,912	854	392	462	131	300	241	1,138	283	855	686	112	1,450	168	348	240	1,290	6,202
Employment	2,796	238	86	152	70	198	199	362	188	174	592	74	1,063	114	269	156	1,125	3,921
Study	2,082	615	306	309	59	101	40	765	91	674	91	37	374	53	76	82	152	2,234
Other, no report	34	1	-	1	2	1	2	11	4	7	3	1	13	1	3	2	13	47
Permanent residents	671	107	44	63	12	30	35	165	24	141	106	36	180	25	58	27	304	975
Employment	408	41	12	29	8	23	29	43	17	26	91	25	148	20	50	19	263	671
Study	255	66	32	34	4	7	5	121	7	114	12	11	29	5	7	7	37	292
Other, no report	8	-	-	-	-	-	1	1	-	1	3	-	3	-	1	1	4	12
Temporary residents	4,241	747	348	399	119	270	206	973	259	714	580	76	1,270	143	290	213	986	5,227
Employment	2,388	197	74	123	62	175	170	319	171	148	501	49	915	94	219	137	862	3,250
Study	1,827	549	274	275	55	94	35	644	84	560	79	26	345	48	69	75	115	1,942
Other, no report	26	1	-	1	2	1	1	10	4	6	-	1	10	1	2	1	9	35
Unknown citizenship	28	5	1	4	1	1	-	9	5	4	5	1	6	1	-	1	18	46
Commitments in the United States																		
Total	12,654	2,044	730	1,314	435	507	420	3,388	436	2,952	1,575	2,031	2,254	352	533	357	8,212	20,866
U.S. citizens	9,523	1,421	456	965	375	288	235	2,661	338	2,323	1,249	1,962	1,332	236	290	196	7,569	17,092
Employment	5,852	673	181	492	225	223	210	732	231	501	1,127	1,516	1,146	210	257	172	7,197	13,049
Study	3,651	745	274	471	150	65	25	1,923	107	1,816	119	439	185	26	33	24	311	3,962
Other, no report	20	3	1	2	-	-	-	6	-	6	3	7	1	-	-	-	61	81
Non-US citizens, ttl	3,126	621	274	347	60	218	185	726	97	629	326	69	921	116	243	160	638	3,764
Employment	1,549	159	52	107	21	147	151	108	40	68	281	42	640	78	182	98	554	2,103
Study	1,560	461	222	239	38	70	34	613	56	557	42	27	275	37	59	61	82	1,642
Other, no report	17	1	-	1	1	1	-	5	1	4	3	-	6	1	2	1	2	19
Permanent residents	575	94	37	57	12	27	33	140	18	122	83	29	157	22	49	24	242	817
Employment	351	38	10	28	8	21	28	33	12	21	72	20	131	19	43	18	213	564
Study	219	56	27	29	4	6	5	107	6	101	8	9	24	3	5	6	28	247
Other, no report	5	-	-	-	-	-	-	-	-	-	3	-	2	-	1	-	1	6
Temporary residents	2,551	527	237	290	48	191	152	586	79	507	243	40	764	94	194	136	396	2,947
Employment	1,198	121	42	79	13	126	123	75	28	47	209	22	509	59	139	80	341	1,539
Study	1,341	405	195	210	34	64	29	506	50	456	34	18	251	34	54	55	54	1,395
Other, no report	12	1	-	1	1	1	-	5	1	4	-	-	4	1	1	1	1	13
Unknown citizenship	5	2	-	2	-	1	-	1	1	-	-	-	1	-	-	1	5	10
Commitments outside the United States																		
Total	2,089	297	159	138	100	79	75	522	202	320	410	58	548	56	100	76	762	2,851
U.S. citizens	441	103	58	45	33	8	23	140	22	118	60	19	55	7	7	5	127	568
Employment	127	7	4	3	7	2	11	22	14	8	44	11	23	2	4	3	115	242
Study	313	96	54	42	26	5	12	118	8	110	16	8	32	5	3	2	12	325
Other, no report	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
Non-US citizens, ttl	1,625	191	100	91	66	71	52	374	176	198	345	38	488	48	93	71	622	2,247
Employment	1,189	70	29	41	46	46	46	246	143	103	304	31	400	34	80	55	546	1,735
Study	421	121	71	50	19	25	5	123	30	93	41	6	81	14	12	15	66	487
Other, no report	15	-	-	-	1	-	1	5	3	2	-	1	7	-	1	1	10	25
Permanent residents	75	10	6	4	-	3	2	18	5	13	18	6	18	3	6	2	58	133
Employment	49	2	1	1	-	2	1	10	5	5	16	5	13	1	4	1	46	95
Study	24	8	5	3	-	1	-	8	-	8	2	1	4	2	2	-	9	33
Other, no report	2	-	-	-	-	-	1	-	-	-	-	-	1	-	-	1	3	5
Temporary residents	1,550	181	94	87	66	68	50	356	171	185	327	32	470	45	87	69	564	2,114
Employment	1,140	68	28	40	46	44	45	236	138	98	288	26	387	33	76	54	500	1,640
Study	397	113	66	47	19	24	5	115	30	85	39	5	77	12	10	15	57	454
Other, no report	13	-	-	-	1	-	-	5	3	2	-	1	6	-	1	-	7	20
Unknown citizenship	23	3	1	2	1	-	-	8	4	4	5	1	5	1	-	-	13	36
Commitment location unknown																		
Total	245	54	22	32	8	12	5	65	15	50	27	21	53	6	14	10	120	365
U.S. citizens	84	12	4	8	3	1	1	27	5	22	12	16	12	2	2	1	90	174
Employment	48	6	2	4	-	1	1	6	3	3	10	15	9	1	2	1	74	122
Study	35	6	2	4	3	-	-	21	2	19	2	-	3	1	-	-	9	44
Other, no report	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	7	8
Non-US citizens, ttl	161	42	18	24	5	11	4	38	10	28	15	5	41	4	12	9	30	191
Employment	58	9	5	4	3	5	2	8	5	3	7	1	23	2	7	3	25	83
Study	101	33	13	20	2	6	1	29	5	24	8	4	18	2	5	6	4	105
Other, no report	2	-	-	-	-	-	1	1	-	1	-	-	-	-	-	-	1	3
Permanent residents	21	3	1	2	-	-	-	7	1	6	5	1	5	-	3	1	4	25
Employment	8	1	1	-	-	-	-	-	-	-	3	-	4	-	3	-	4	12
Study	12	2	-	2	-	-	-	6	1	5	2	1	1	-	-	1	-	12
Other, no report	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1
Temporary residents	140	39	17	22	5	11	4	31	9	22	10	4	36	4	9	8	26	166
Employment	50	8	4	4	3	5	2	8	5	3	4	1	19	2	4	3	21	71
Study	89	31	13	18	2	6	1	23	4	19	6	3	17	2	5	5	4	93
Other, no report	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	2
Unknown citizenship	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(1) Only doctorate recipients with definite employment commitments in the United States are reported here. Approximately two-thirds of all S&E doctorate recipients have definite postgraduation plans at receipt of doctorate. See Table 15 for actual numbers by field of study. A "definite commitment" is defined as having a signed contract, acceptance of a formal offer, etc.
(2) Subtotal includes doctorate recipients whose engineering fields are not separately shown.
(3) Non-S&E doctorate recipients include those whose field of specialization is unknown.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

Table 14. Science and engineering (S&E) doctorates awarded, by sex, major field, and type of employer for recipients with a definite commitment in the United States(1): 1970-1991, and totals for 1960-1964 and 1965-1969

Sex, major field, and type of employer	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate 1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
TOTAL, MALE AND FEMALE														
Total, S&E														
College/university	11,997	21,340	33,337	5,263	5,656	5,157	4,935	4,341	4,287	4,013	3,711	3,390	3,408	44,161
Elem/sec school	221	163	384	44	80	96	115	89	99	112	101	90	70	896
Government	2,357	3,810	6,167	1,015	1,256	1,467	1,372	1,250	1,365	1,285	1,240	1,057	1,133	12,440
Nonprofit organization	1,043	1,525	2,568	408	318	351	454	454	443	436	437	489	503	4,293
Industry	5,789	9,288	15,077	2,399	1,882	1,548	1,780	1,842	1,886	1,589	1,618	1,799	2,024	18,367
Self-employed	110	110	220	48	48	57	61	71	71	82	87	95	105	725
Other & unknown	593	695	1,288	39	41	48	56	43	36	38	32	27	35	395
Total	22,110	36,931	59,041	9,216	9,281	8,724	8,773	8,090	8,187	7,555	7,226	6,947	7,278	81,277
Total, sciences														
College/university	10,294	18,171	28,465	4,676	5,057	4,671	4,493	4,007	3,898	3,642	3,353	3,080	3,056	39,933
Elem/sec school	218	162	380	44	79	96	113	89	99	111	101	90	70	892
Government	2,202	3,089	5,291	773	910	1,076	1,047	973	1,061	1,029	976	867	940	9,652
Nonprofit organization	872	1,155	2,027	308	268	304	386	386	402	402	402	467	468	3,793
Industry	3,950	5,175	9,125	1,293	980	697	878	949	1,065	892	943	1,129	1,290	10,116
Self-employed	101	87	188	35	41	39	54	61	65	71	77	83	96	622
Other & unknown	428	488	916	35	30	43	55	39	35	35	31	21	34	358
Total	18,065	28,327	46,392	7,164	7,365	6,926	7,026	6,504	6,625	6,182	5,883	5,737	5,954	65,366
Physical sciences														
College/university	1,864	2,864	4,728	573	523	445	337	267	214	224	219	181	167	3,150
Elem/sec school	15	9	24	5	11	21	15	11	6	13	7	5	3	97
Government	341	645	986	174	158	234	205	174	145	124	136	108	132	1,590
Nonprofit organization	188	194	382	63	43	28	23	23	20	19	14	17	17	267
Industry	2,651	3,392	6,043	798	588	300	407	461	515	395	431	514	603	5,012
Self-employed	5	7	12	3	4	-	6	2	6	2	5	3	5	36
Other & unknown	140	173	313	5	2	-	3	-	-	1	1	-	3	15
Total	5,204	7,284	12,488	1,621	1,329	1,028	996	938	906	778	813	828	930	10,167
Earth, atmos, & ocean sciences														
College/university	382	654	1,036	148	160	161	157	131	103	112	115	95	106	1,288
Elem/sec school	1	2	3	-	-	1	1	2	2	-	1	1	1	9
Government	166	233	399	37	66	66	79	77	96	79	94	78	61	733
Nonprofit organization	30	29	59	9	6	5	6	9	9	5	7	7	10	73
Industry	235	311	546	72	63	67	57	67	111	87	88	100	119	831
Self-employed	5	7	12	-	4	3	-	4	1	2	1	2	2	19
Other & unknown	15	19	34	-	-	-	-	1	-	-	2	-	1	4
Total	834	1,255	2,089	266	299	303	300	291	322	285	308	283	300	2,957
Mathematics														
College/university	1,000	2,327	3,327	617	639	563	493	444	436	407	340	319	288	4,546
Elem/sec school	3	3	6	-	-	5	1	5	6	1	2	3	2	25
Government	58	99	157	30	29	54	48	37	50	47	38	34	38	405
Nonprofit organization	42	59	101	22	7	8	9	7	8	2	4	6	5	78
Industry	203	310	513	99	68	83	82	80	85	64	81	84	73	799
Self-employed	2	2	4	-	1	-	2	3	2	1	3	1	-	13
Other & unknown	20	18	38	-	2	2	-	-	-	1	-	-	1	6
Total	1,328	2,818	4,146	768	746	715	635	576	587	523	468	447	407	5,872
Computer & information sciences														
College/university	-	-	-	-	-	-	-	-	-	-	8	43	74	125
Elem/sec school	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Government	-	-	-	-	-	-	-	-	-	-	2	3	8	13
Nonprofit organization	-	-	-	-	-	-	-	-	-	-	1	1	2	4
Industry	-	-	-	-	-	-	-	-	-	-	5	23	52	80
Self-employed	-	-	-	-	-	-	-	-	-	-	-	1	2	3
Other & unknown	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Total	-	-	-	-	-	-	-	-	-	-	16	71	139	226

See footnotes at end of table.

Table 14. Science and engineering (S&E) doctorates awarded, by sex, major field, and type of employer for recipients with a definite commitment in the United States(1): 1970-1991, and totals for 1960-1964 and 1965-1969--continued

Sex, major field, and type of employer	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-1989	1990	1991
TOTAL, MALE AND FEMALE													
Total, S&E													
College/university	3,228	3,183	2,993	3,038	2,767	2,851	2,753	2,653	2,860	3,013	29,339	2,952	3,099
Elem/sec school	113	121	127	105	102	95	97	99	112	87	1,058	81	111
Government	1,142	1,142	910	908	929	885	873	830	854	885	9,358	871	890
Nonprofit organization	537	513	527	501	528	502	531	522	514	476	5,151	493	492
Industry	2,139	2,291	2,375	2,044	1,942	2,099	2,111	1,937	2,107	2,255	21,300	2,452	2,488
Self-employed	101	146	157	175	171	145	175	156	154	157	1,537	240	229
Other & unknown	25	34	31	26	29	37	43	54	46	40	365	86	94
Total	7,285	7,430	7,120	6,797	6,468	6,614	6,583	6,251	6,647	6,913	68,108	7,175	7,403
Total, sciences													
College/university	2,876	2,822	2,659	2,615	2,380	2,449	2,320	2,221	2,347	2,514	25,203	2,489	2,637
Elem/sec school	113	121	127	105	102	95	97	99	112	87	1,058	81	110
Government	935	988	771	781	756	731	732	660	670	694	7,718	658	691
Nonprofit organization	509	487	498	484	510	480	507	501	500	447	4,923	455	451
Industry	1,410	1,552	1,620	1,387	1,314	1,372	1,388	1,222	1,272	1,355	13,892	1,423	1,426
Self-employed	91	140	143	170	162	137	170	149	140	145	1,447	217	214
Other & unknown	25	32	29	26	25	35	41	52	45	39	349	79	88
Total	5,959	6,142	5,847	5,568	5,249	5,299	5,255	4,904	5,086	5,281	54,590	5,402	5,617
Physical sciences													
College/university	144	129	161	174	149	169	141	149	150	148	1,514	139	156
Elem/sec school	6	4	2	1	2	-	3	1	1	-	20	2	3
Government	110	112	89	96	112	94	78	78	77	66	912	74	83
Nonprofit organization	13	15	9	15	10	16	21	23	16	12	150	13	22
Industry	651	756	770	636	581	646	637	528	544	587	6,336	605	559
Self-employed	2	3	1	1	-	4	2	4	-	-	17	6	4
Other & unknown	-	-	-	1	-	1	-	1	-	2	5	3	6
Total	926	1,019	1,032	924	854	930	882	784	788	815	8,954	842	833
Earth, atmos, & ocean sciences													
College/university	101	89	98	100	99	98	80	94	84	79	922	87	69
Elem/sec school	-	1	2	-	-	-	1	1	-	1	6	1	-
Government	74	70	53	56	51	46	44	58	64	68	584	52	68
Nonprofit organization	6	-	10	8	4	2	3	4	2	5	44	5	8
Industry	110	117	153	99	92	62	61	47	59	82	882	91	99
Self-employed	-	3	1	1	4	2	3	6	6	3	29	12	1
Other & unknown	-	-	-	-	-	-	-	-	-	-	-	-	1
Total	291	280	317	264	250	210	192	210	215	238	2,467	248	246
Mathematics													
College/university	303	275	264	251	282	249	235	196	229	259	2,543	244	293
Elem/sec school	4	1	-	4	1	-	-	1	1	-	12	1	-
Government	24	25	30	20	25	20	15	11	7	16	193	3	17
Nonprofit organization	4	3	3	4	4	5	3	5	5	4	40	4	5
Industry	85	86	57	43	43	51	53	47	39	35	539	45	52
Self-employed	-	1	-	1	-	1	1	-	-	-	4	1	2
Other & unknown	-	-	-	2	-	-	-	-	-	-	2	3	2
Total	420	391	354	325	355	326	307	260	281	314	3,333	301	371
Computer & information sciences													
College/university	63	79	68	90	91	90	101	161	168	211	1,122	193	178
Elem/sec school	-	-	-	-	-	-	-	1	-	-	1	1	1
Government	9	8	8	6	7	7	10	5	18	15	93	22	14
Nonprofit organization	4	1	2	-	5	3	5	2	4	5	31	7	10
Industry	55	61	57	71	77	63	76	64	95	94	713	112	151
Self-employed	2	1	-	1	1	1	5	1	-	-	12	1	6
Other & unknown	-	-	-	-	-	2	-	1	-	-	3	1	1
Total	133	150	135	168	181	166	197	235	285	325	1,975	337	361

See footnotes at end of table.

Table 14. Science and engineering (S&E) doctorates awarded, by sex, major field, and type of employer for recipients with a definite commitment in the United States(1): 1970-1991, and totals for 1960-1964 and 1965-1969--continued

	Year of doctorate													
Sex, major field, and type of employer	Total 1960-1964	Total 1965-1969	Total 1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
TOTAL, MALE AND FEMALE														
Agricultural & biological sciences														
College/university	2,836	4,364	7,200	1,005	1,032	881	901	770	707	658	596	590	606	7,746
Elem/sec school	24	8	32	5	5	12	11	10	8	5	7	3	4	70
Government	650	922	1,572	203	225	213	213	186	193	191	150	160	144	1,878
Nonprofit organization	153	236	389	49	38	65	62	57	58	52	33	38	49	501
Industry	529	741	1,270	198	161	143	195	198	203	187	179	205	202	1,871
Self-employed	14	7	21	9	4	6	16	13	10	8	10	12	7	95
Other & unknown	98	118	216	4	2	6	4	2	2	2	1	-	4	27
Total	4,304	6,396	10,700	1,473	1,467	1,326	1,402	1,236	1,181	1,103	976	1,008	1,016	12,188
Social sciences														
College/university	2,864	5,455	8,319	1,648	1,927	1,892	1,852	1,671	1,686	1,562	1,429	1,276	1,199	16,142
Elem/sec school	34	8	42	4	5	8	12	5	10	4	6	8	8	70
Government	311	430	741	116	184	184	189	199	232	229	194	193	198	1,918
Nonprofit organization	171	226	397	59	63	68	98	79	77	77	70	82	93	766
Industry	141	221	362	65	58	68	73	78	94	87	88	98	111	820
Self-employed	22	18	40	8	10	12	9	7	14	16	15	13	17	121
Other & unknown	57	74	131	15	14	31	29	27	21	27	24	14	18	220
Total	3,600	6,432	10,032	1,915	2,261	2,263	2,262	2,066	2,134	2,002	1,826	1,684	1,644	20,057
Psychology														
College/university	1,348	2,507	3,855	685	776	729	753	724	752	679	646	576	616	6,936
Elem/sec school	141	132	273	30	58	49	73	56	67	88	78	70	52	621
Government	676	760	1,436	213	248	325	313	300	345	359	362	291	359	3,115
Nonprofit organization	288	411	699	106	111	130	188	211	230	247	273	316	292	2,104
Industry	191	200	391	61	42	36	64	65	57	72	71	105	130	703
Self-employed	53	46	99	15	18	18	21	32	32	42	43	51	63	335
Other & unknown	98	86	184	11	10	4	19	9	12	4	3	7	6	85
Total	2,795	4,142	6,937	1,121	1,263	1,291	1,431	1,397	1,495	1,491	1,476	1,416	1,518	13,899
Engineering(2)														
College/university	1,703	3,169	4,872	587	599	486	442	334	389	371	358	310	352	4,228
Elem/sec school	3	1	4	-	1	-	2	-	-	1	-	-	-	4
Government	155	721	876	242	346	391	325	277	304	256	264	190	193	2,788
Nonprofit organization	171	370	541	100	50	47	68	68	41	34	35	22	35	500
Industry	1,839	4,113	5,952	1,106	902	851	902	893	821	697	675	670	734	8,251
Self-employed	9	23	32	13	7	18	7	10	6	11	10	12	9	103
Other & unknown	165	207	372	4	11	5	1	4	1	3	1	6	1	37
Total	4,045	8,604	12,649	2,052	1,916	1,798	1,747	1,586	1,562	1,373	1,343	1,210	1,324	15,911
Total, non-S&E(3)														
College/university	11,277	21,841	33,118	6,274	6,650	6,760	6,691	6,073	5,848	5,748	5,185	4,870	4,725	58,824
Elem/sec school	2,077	3,193	5,270	702	892	1,158	1,238	1,172	1,295	1,408	1,247	1,178	1,165	11,455
Government	519	912	1,431	358	476	490	602	675	712	712	708	704	740	6,177
Nonprofit organization	535	799	1,334	188	270	306	358	356	447	465	467	479	478	3,814
Industry	230	416	646	106	135	107	150	190	194	173	196	233	270	1,754
Self-employed	61	68	129	32	30	36	33	44	59	65	85	85	93	562
Other & unknown	123	165	288	55	25	24	36	24	26	21	14	14	21	260
Total	14,822	27,394	42,216	7,715	8,478	8,881	9,108	8,534	8,581	8,592	7,902	7,563	7,492	82,846
Total, all fields														
College/university	23,274	43,181	66,455	11,537	12,306	11,917	11,626	10,414	10,135	9,761	8,896	8,260	8,133	102,985
Elem/sec school	2,298	3,356	5,654	746	972	1,254	1,353	1,261	1,394	1,520	1,348	1,268	1,235	12,351
Government	2,876	4,722	7,598	1,373	1,732	1,957	1,974	1,925	2,077	1,997	1,948	1,761	1,873	18,617
Nonprofit organization	1,578	2,324	3,902	596	588	657	812	810	890	901	904	968	981	8,107
Industry	6,019	9,704	15,723	2,505	2,017	1,655	1,930	2,032	2,080	1,762	1,814	2,032	2,294	20,121
Self-employed	171	178	349	80	78	93	94	115	130	147	172	180	198	1,287
Other & unknown	716	860	1,576	94	66	72	92	67	62	59	46	41	56	655
Total	36,932	64,325	101,257	16,931	17,759	17,605	17,881	16,624	16,768	16,147	15,128	14,510	14,770	164,123

See footnotes at end of table.

Table 14. Science and engineering (S&E) doctorates awarded, by sex, major field, and type of employer for recipients with a definite commitment in the United States(1): 1970-1991, and totals for 1960-1964 and 1965-1969--continued

	Year of doctorate												
Sex, major field, and type of employer	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-1989	1990	1991
TOTAL, MALE AND FEMALE													
Agricultural & biological sciences													
College/university	562	550	530	470	395	476	391	356	364	397	4,491	353	385
Elem/sec school	2	7	4	8	2	7	4	2	6	7	49	2	4
Government	166	152	125	148	153	136	142	139	142	128	1,431	134	138
Nonprofit organization	44	39	53	34	46	35	40	39	42	45	417	53	40
Industry	234	251	282	253	246	267	234	224	203	259	2,453	235	241
Self-employed	8	18	14	16	10	11	17	6	14	13	127	15	25
Other & unknown	1	2	3	3	1	2	-	-	1	1	14	5	7
Total	1,017	1,019	1,011	932	853	934	828	766	772	850	8,982	797	840
Social sciences													
College/university	1,135	1,089	1,024	1,022	902	865	918	854	916	926	9,651	964	1,027
Elem/sec school	7	8	12	9	4	13	9	9	15	11	97	6	11
Government	220	243	172	168	158	171	177	142	129	160	1,740	140	140
Nonprofit organization	106	99	73	74	93	70	85	82	90	73	845	76	80
Industry	122	119	134	113	99	107	117	108	112	79	1,110	99	84
Self-employed	14	20	30	31	24	21	24	16	24	15	219	22	27
Other & unknown	18	26	22	14	21	29	28	32	36	26	252	29	39
Total	1,622	1,604	1,467	1,431	1,301	1,276	1,358	1,243	1,322	1,290	13,914	1,336	1,408
Psychology													
College/university	568	611	514	508	462	502	454	411	436	494	4,960	509	529
Elem/sec school	94	100	107	83	93	75	80	84	89	68	873	68	91
Government	332	378	294	287	250	257	266	227	233	241	2,765	233	231
Nonprofit organization	332	330	348	349	348	349	350	346	341	303	3,396	297	286
Industry	153	162	167	172	176	176	210	204	220	219	1,859	236	240
Self-employed	65	94	97	119	123	97	118	116	96	114	1,039	160	149
Other & unknown	6	4	4	6	3	1	13	18	8	10	73	38	32
Total	1,550	1,679	1,531	1,524	1,455	1,457	1,491	1,406	1,423	1,449	14,965	1,541	1,558
Engineering(2)													
College/university	352	361	334	423	387	402	433	432	513	499	4,136	463	462
Elem/sec school	-	-	-	-	-	-	-	-	-	-	-	-	1
Government	207	154	139	127	173	154	141	170	184	191	1,640	213	199
Nonprofit organization	28	26	29	17	18	22	24	21	14	29	228	38	41
Industry	729	739	755	657	628	727	723	715	835	900	7,408	1,029	1,062
Self-employed	10	6	14	5	9	8	5	7	14	12	90	23	15
Other & unknown	-	2	2	-	4	2	2	2	1	1	16	7	6
Total	1,326	1,288	1,273	1,229	1,219	1,315	1,328	1,347	1,561	1,632	13,518	1,773	1,786
Total, non-S&E(3)													
College/university	4,683	4,542	4,285	4,151	4,003	3,941	3,993	4,078	4,126	4,314	42,116	4,626	4,834
Elem/sec school	1,366	1,353	1,284	1,329	1,314	1,248	1,256	1,222	1,258	1,191	12,821	1,347	1,413
Government	721	735	668	592	630	636	603	512	497	530	6,124	425	415
Nonprofit organization	533	495	534	500	494	523	484	463	494	493	5,013	490	532
Industry	315	325	380	354	305	317	334	284	294	313	3,221	301	289
Self-employed	119	139	170	157	139	131	154	127	141	132	1,409	182	190
Other & unknown	14	18	23	13	10	10	9	23	14	7	141	62	83
Total	7,751	7,607	7,344	7,096	6,895	6,806	6,833	6,709	6,824	6,980	70,845	7,433	7,756
Total, all fields													
College/university	7,911	7,725	7,278	7,189	6,770	6,792	6,746	6,731	6,986	7,327	71,455	7,578	7,933
Elem/sec school	1,479	1,474	1,411	1,434	1,416	1,343	1,353	1,321	1,370	1,278	13,879	1,428	1,524
Government	1,863	1,877	1,578	1,500	1,559	1,521	1,476	1,342	1,351	1,415	15,482	1,296	1,305
Nonprofit organization	1,070	1,008	1,061	1,001	1,022	1,025	1,015	985	1,008	969	10,164	983	1,024
Industry	2,454	2,616	2,755	2,398	2,247	2,416	2,445	2,221	2,401	2.568	24,521	2,753	2,777
Self-employed	220	285	327	332	310	276	329	283	295	289	2,946	422	419
Other & unknown	39	52	54	39	39	47	52	77	60	47	506	148	177
Total	15,036	15,037	14,464	13,893	13,363	13,420	13,416	12,960	13,471	13,893	138,953	14,608	15,159

See footnotes at end of table.

Table 14. Science and engineering (S&E) doctorates awarded, by sex, major field, and type of employer for recipients with a definite commitment in the United States(1): 1970-1991, and totals for 1960-1964 and 1965-1969--continued

	Year of doctorate													
Sex, major field, and type of employer	Total 1960-1964	Total 1965-1969	Total 1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
MALE														
Total, S&E														
College/university	11,095	19,546	30,641	4,795	5,067	4,537	4,255	3,583	3,492	3,234	2,949	2,636	2,624	37,172
Elem/sec school	180	114	294	35	62	68	91	69	65	76	65	49	40	620
Government	2,195	3,569	5,764	951	1,173	1,383	1,247	1,139	1,239	1,138	1,095	924	913	11,202
Nonprofit organization	942	1,320	2,262	367	276	290	375	378	347	339	310	330	333	3,345
Industry	5,712	9,166	14,878	2,369	1,856	1,520	1,715	1,790	1,807	1,493	1,518	1,647	1,853	17,568
Self-employed	89	91	180	39	44	49	55	61	57	60	71	78	76	590
Other & unknown	572	680	1,252	29	37	40	46	39	31	34	25	21	28	330
Total	20,785	34,486	55,271	8,585	8,515	7,887	7,784	7,059	7,038	6,374	6,033	5,685	5,867	70,827
Total, sciences														
College/university	9,398	16,386	25,784	4,211	4,469	4,056	3,820	3,257	3,118	2,872	2,603	2,339	2,283	33,028
Elem/sec school	177	113	290	35	61	68	89	69	65	75	65	49	40	616
Government	2,042	2,849	4,891	710	827	994	925	863	939	885	837	739	726	8,445
Nonprofit organization	772	951	1,723	267	226	243	307	310	307	305	276	308	300	2,849
Industry	3,878	5,063	8,941	1,264	957	671	820	901	997	806	859	989	1,137	9,401
Self-employed	80	68	148	26	37	31	49	51	51	49	61	66	67	488
Other & unknown	407	473	880	25	26	35	45	35	30	31	24	15	27	293
Total	16,754	25,903	42,657	6,538	6,603	6,098	6,055	5,486	5,507	5,023	4,725	4,505	4,580	55,120
Physical sciences														
College/university	1,782	2,692	4,474	533	492	405	309	248	188	198	202	164	143	2,882
Elem/sec school	15	8	23	5	10	19	13	10	5	13	6	4	2	87
Government	331	632	963	169	155	228	201	170	139	118	132	97	121	1,530
Nonprofit organization	187	184	371	60	43	27	23	23	19	15	12	13	15	250
Industry	2,605	3,332	5,937	786	582	292	390	439	484	368	402	469	553	4,765
Self-employed	5	6	11	3	4	-	5	2	6	2	5	3	5	35
Other & unknown	140	171	311	4	2	-	3	-	-	1	1	-	3	14
Total	5,065	7,025	12,090	1,560	1,288	971	944	892	841	715	760	750	842	9,563
Earth, atmos, & ocean sciences														
College/university	377	638	1,015	142	157	158	150	122	98	104	108	89	96	1,224
Elem/sec school	-	2	2	-	-	1	1	2	2	-	1	1	1	9
Government	166	226	392	36	63	66	78	77	94	72	91	72	59	708
Nonprofit organization	30	29	59	7	6	5	6	7	9	4	5	7	9	65
Industry	235	310	545	72	63	67	54	65	106	79	85	86	113	790
Self-employed	5	7	12	-	4	3	-	4	1	2	1	2	2	19
Other & unknown	15	19	34	-	-	-	-	1	-	-	2	-	1	4
Total	828	1,231	2,059	257	293	300	289	278	310	261	293	257	281	2,819
Mathematics														
College/university	931	2,185	3,116	581	600	525	442	397	386	351	295	265	236	4,078
Elem/sec school	2	3	5	-	-	4	1	5	5	-	2	3	2	22
Government	58	98	156	30	28	53	44	35	46	45	36	31	32	380
Nonprofit organization	41	56	97	22	7	7	9	6	7	2	4	4	3	71
Industry	198	305	503	99	66	81	75	79	80	61	73	71	61	746
Self-employed	2	2	4	-	-	-	2	3	2	1	3	1	-	12
Other & unknown	20	17	37	-	2	2	-	-	-	1	-	-	1	6
Total	1,252	2,666	3,918	732	703	672	573	525	526	461	413	375	335	5,315
Computer & information sciences														
College/university	-	-	-	-	-	-	-	-	-	-	7	41	61	109
Elem/sec school	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Government	-	-	-	-	-	-	-	-	-	-	2	3	6	11
Nonprofit organization	-	-	-	-	-	-	-	-	-	-	-	1	1	2
Industry	-	-	-	-	-	-	-	-	-	-	5	22	46	73
Self-employed	-	-	-	-	-	-	-	-	-	-	-	1	2	3
Other & unknown	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Total	-	-	-	-	-	-	-	-	-	-	14	68	117	199

See footnotes at end of table.

Table 14. Science and engineering (S&E) doctorates awarded, by sex, major field, and type of employer for recipients with a definite commitment in the United States(1): 1970-1991, and totals for 1960-1964 and 1965-1969--continued

Sex, major field, and type of employer	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-1989	1990	1991
MALE													
Total, S&E													
College/university	2,434	2,414	2,232	2,242	2,026	2,068	1,919	1,910	2,038	2,024	21,307	1,987	1,999
Elem/sec school	55	60	73	53	46	46	41	43	45	36	498	29	42
Government	951	892	703	700	731	626	652	632	661	630	7,178	639	606
Nonprofit organization	370	320	324	289	318	285	325	262	264	266	3,023	260	262
Industry	1,893	2,024	2,069	1,781	1,656	1,811	1,757	1,595	1,757	1,828	18,171	2,014	2,007
Self-employed	71	95	112	97	80	91	93	79	84	82	884	119	103
Other & unknown	16	24	24	20	23	29	30	33	32	29	260	47	60
Total	5,790	5,829	5,537	5,182	4,880	4,956	4,817	4,554	4,881	4,895	51,321	5,095	5,079
Total, sciences													
College/university	2,099	2,074	1,922	1,838	1,659	1,694	1,518	1,501	1,564	1,580	17,449	1,574	1,596
Elem/sec school	55	60	73	53	46	46	41	43	45	36	498	29	41
Government	750	743	574	580	566	487	522	472	485	467	5,646	447	434
Nonprofit organization	343	295	295	275	300	264	303	243	253	239	2,810	225	226
Industry	1,193	1,312	1,340	1,151	1,060	1,127	1,087	929	971	1,005	11,175	1,081	1,035
Self-employed	61	89	99	93	72	83	88	72	71	70	798	98	89
Other & unknown	16	23	22	20	19	27	28	31	31	28	245	43	54
Total	4,517	4,596	4,325	4,010	3,722	3,728	3,587	3,291	3,420	3,425	38,621	3,497	3,475
Physical sciences													
College/university	117	113	138	145	130	131	115	118	123	119	1,249	106	114
Elem/sec school	6	4	2	1	2	-	1	-	1	-	17	1	2
Government	102	97	81	87	96	82	62	69	73	54	803	61	65
Nonprofit organization	12	11	7	14	10	13	19	18	12	9	125	10	17
Industry	573	666	675	560	500	551	545	441	461	459	5,431	486	449
Self-employed	1	2	1	1	-	4	1	4	-	-	14	6	4
Other & unknown	-	-	-	1	-	1	-	-	-	-	2	2	5
Total	811	893	904	809	738	782	743	650	670	641	7,641	672	656
Earth, atmos, & ocean sciences													
College/university	90	83	86	79	80	80	57	73	59	58	745	65	49
Elem/sec school	-	1	2	-	-	-	-	-	-	1	4	1	-
Government	69	63	48	53	40	34	37	46	54	55	499	38	51
Nonprofit organization	6	-	10	6	4	2	3	3	2	5	41	3	7
Industry	101	105	131	87	82	53	56	39	52	72	778	79	78
Self-employed	-	3	1	1	2	1	3	4	5	3	23	11	-
Other & unknown	-	-	-	-	-	-	-	-	-	-	-	-	1
Total	266	255	278	226	208	170	156	165	172	194	2,090	197	186
Mathematics													
College/university	256	229	227	205	224	207	196	157	190	191	2,082	188	222
Elem/sec school	2	1	-	3	1	-	-	-	1	-	8	-	-
Government	23	22	25	14	24	17	13	10	5	15	168	2	16
Nonprofit organization	4	2	3	3	2	5	3	3	4	2	31	4	5
Industry	77	73	45	35	37	43	41	39	29	29	448	37	39
Self-employed	-	1	-	-	-	1	1	-	-	-	3	1	2
Other & unknown	-	-	-	2	-	-	-	-	-	-	2	2	2
Total	362	328	300	262	288	273	254	209	229	237	2,742	234	286
Computer & information sciences													
College/university	54	70	61	77	77	79	84	133	140	169	944	147	136
Elem/sec school	-	-	-	-	-	-	-	1	-	-	1	-	-
Government	6	8	7	5	6	7	10	5	15	15	84	16	14
Nonprofit organization	4	1	2	-	2	2	3	1	4	5	24	6	10
Industry	51	54	52	67	73	62	71	55	88	72	645	102	132
Self-employed	2	1	-	-	1	1	4	1	-	-	10	1	3
Other & unknown	-	-	-	-	-	1	-	1	-	-	2	1	1
Total	117	134	122	149	159	152	172	197	247	261	1,710	273	296

See footnotes at end of table.

Table 14. Science and engineering (S&E) doctorates awarded, by sex, major field, and type of employer for recipients with a definite commitment in the United States(1): 1970-1991, and totals for 1960-1964 and 1965-1969--continued

Sex, major field, and type of employer	Year of doctorate													
	Total 1960-1964	Total 1965-1969	Total 1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
MALE														
Agricultural & biological sciences														
College/university	2,557	3,894	6,451	904	898	782	757	649	578	540	492	475	491	6,566
Elem/sec school	22	7	29	4	3	8	10	6	6	4	5	2	3	51
Government	619	879	1,498	197	218	205	200	173	180	185	134	143	123	1,758
Nonprofit organization	131	191	322	42	35	50	53	50	49	43	26	26	41	415
Industry	517	721	1,238	191	153	141	183	189	195	174	158	189	177	1,750
Self-employed	14	6	20	7	4	6	16	12	8	8	9	11	7	88
Other & unknown	95	115	210	3	2	5	4	2	2	2	-	-	3	23
Total	3,955	5,813	9,768	1,348	1,313	1,197	1,223	1,081	1,018	956	824	846	845	10,651
Social sciences														
College/university	2,647	4,915	7,562	1,488	1,697	1,647	1,593	1,351	1,346	1,225	1,111	946	889	13,293
Elem/sec school	26	5	31	4	5	6	11	5	9	4	6	6	6	62
Government	285	400	685	110	168	170	172	179	215	198	170	172	150	1,704
Nonprofit organization	153	203	356	54	50	60	80	66	63	60	51	63	62	609
Industry	138	209	347	62	55	62	66	73	86	75	81	76	95	731
Self-employed	17	16	33	8	10	9	9	6	10	13	13	12	12	102
Other & unknown	52	73	125	12	14	28	27	26	20	23	19	11	13	193
Total	3,318	5,821	9,139	1,738	1,999	1,982	1,958	1,706	1,749	1,598	1,451	1,286	1,227	16,694
Psychology														
College/university	1,104	2,062	3,166	563	625	539	569	490	522	454	388	359	367	4,876
Elem/sec school	112	88	200	22	43	30	53	41	38	54	45	33	26	385
Government	583	614	1,197	168	195	272	230	229	265	267	272	221	235	2,354
Nonprofit organization	230	288	518	82	85	94	136	158	160	181	178	194	169	1,437
Industry	185	186	371	54	38	28	52	56	46	49	55	76	92	546
Self-employed	37	31	68	8	15	13	17	24	24	23	30	36	39	229
Other & unknown	85	78	163	6	6	-	11	6	8	4	2	4	5	52
Total	2,336	3,347	5,683	903	1,007	976	1,068	1,004	1,063	1,032	970	923	933	9,879
Engineering(2)														
College/university	1,697	3,160	4,857	584	598	481	435	326	374	362	346	297	341	4,144
Elem/sec school	3	1	4	-	1	-	2	-	-	1	-	-	-	4
Government	153	720	873	241	346	389	322	276	300	253	258	185	187	2,757
Nonprofit organization	170	369	539	100	50	47	68	68	40	34	34	22	33	496
Industry	1,834	4,103	5,937	1,105	899	849	895	889	810	687	659	658	716	8,167
Self-employed	9	23	32	13	7	18	6	10	6	11	10	12	9	102
Other & unknown	165	207	372	4	11	5	1	4	1	3	1	6	1	37
Total	4,031	8,583	12,614	2,047	1,912	1,789	1,729	1,573	1,531	1,351	1,308	1,180	1,287	15,707
Total, non-S&E(3)														
College/university	9,429	18,029	27,458	5,091	5,397	5,318	5,151	4,544	4,136	3,901	3,407	3,092	2,865	42,902
Elem/sec school	1,784	2,741	4,525	605	744	967	1,029	926	999	1,061	897	823	768	8,819
Government	457	778	1,235	315	408	421	499	568	536	554	529	494	499	4,823
Nonprofit organization	463	673	1,136	148	220	254	294	288	349	345	360	360	335	2,953
Industry	220	392	612	96	126	93	131	157	152	146	153	178	190	1,422
Self-employed	46	53	99	23	22	31	21	36	38	46	65	52	62	396
Other & unknown	110	143	253	47	19	18	28	20	21	11	9	11	11	195
Total	12,509	22,809	35,318	6,325	6,936	7,102	7,153	6,539	6,231	6,064	5,420	5,010	4,730	61,510
Total, all fields														
College/university	20,524	37,575	58,099	9,886	10,464	9,855	9,406	8,127	7,628	7,135	6,356	5,728	5,489	80,074
Elem/sec school	1,964	2,855	4,819	640	806	1,035	1,120	995	1,064	1,137	962	872	808	9,439
Government	2,652	4,347	6,999	1,266	1,581	1,804	1,746	1,707	1,775	1,692	1,624	1,418	1,412	16,025
Nonprofit organization	1,405	1,993	3,398	515	496	544	669	666	696	684	670	690	668	6,298
Industry	5,932	9,558	15,490	2,465	1,982	1,613	1,846	1,947	1,959	1,639	1,671	1,825	2,043	18,990
Self-employed	135	144	279	62	66	80	76	97	95	106	136	130	138	986
Other & unknown	682	823	1,505	76	56	58	74	59	52	45	34	32	39	525
Total	33,294	57,295	90,589	14,910	15,451	14,989	14,937	13,598	13,269	12,438	11,453	10,695	10,597	132,337

See footnotes at end of table.

Table 14. Science and engineering (S&E) doctorates awarded, by sex, major field, and type of employer for recipients with a definite commitment in the United States(1): 1970-1991, and totals for 1960-1964 and 1965-1969--continued

Sex, major field, and type of employer	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-1989	1990	1991
MALE													
Agricultural & biological sciences													
College/university	436	426	415	348	303	352	266	235	253	252	3,286	234	245
Elem/sec school	2	6	4	6	1	4	2	2	4	3	34	2	3
Government	139	118	99	107	125	99	113	120	106	92	1,118	105	97
Nonprofit organization	34	30	34	25	42	24	34	25	33	33	314	36	27
Industry	194	213	226	210	196	221	178	176	150	196	1,960	178	169
Self-employed	8	15	10	13	10	8	14	3	8	9	98	11	19
Other & unknown	1	2	3	3	1	2	-	-	1	1	14	4	5
Total	814	810	791	712	678	710	607	561	555	586	6,824	570	565
Social sciences													
College/university	842	806	725	721	630	599	592	584	607	578	6,684	611	615
Elem/sec school	2	5	7	3	1	11	3	4	5	8	49	2	5
Government	183	196	131	135	120	121	130	103	91	103	1,313	99	97
Nonprofit organization	78	63	44	47	58	38	48	35	43	40	494	40	48
Industry	95	92	109	81	71	83	84	75	81	63	834	73	55
Self-employed	12	14	26	23	11	13	14	7	12	6	138	10	10
Other & unknown	12	19	16	11	16	23	19	24	27	22	189	20	32
Total	1,224	1,195	1,058	1,021	907	888	890	832	866	820	9,701	855	862
Psychology													
College/university	304	347	270	263	215	246	208	201	192	213	2,459	223	215
Elem/sec school	43	43	58	40	41	31	35	36	34	24	385	23	31
Government	228	239	183	179	155	127	157	119	141	133	1,661	126	94
Nonprofit organization	205	188	195	180	182	180	193	158	155	145	1,781	126	112
Industry	102	109	102	111	101	114	112	104	110	114	1,079	126	113
Self-employed	38	53	61	55	48	55	51	53	46	52	512	58	51
Other & unknown	3	2	3	3	2	-	9	6	3	5	36	14	8
Total	923	981	872	831	744	753	765	677	681	686	7,913	696	624
Engineering(2)													
College/university	335	340	310	404	367	374	401	409	474	444	3,858	413	403
Elem/sec school	-	-	-	-	-	-	-	-	-	-	-	-	1
Government	201	149	129	120	165	139	130	160	176	163	1,532	192	172
Nonprofit organization	27	25	29	14	18	21	22	19	11	27	213	35	36
Industry	700	712	729	630	596	684	670	666	786	823	6,996	933	972
Self-employed	10	6	13	4	8	8	5	7	13	12	86	21	14
Other & unknown	-	1	2	-	4	2	2	2	1	1	15	4	6
Total	1,273	1,233	1,212	1,172	1,158	1,228	1,230	1,263	1,461	1,470	12,700	1,598	1,604
Total, non-S&E(3)													
College/university	2,704	2,519	2,310	2,221	2,054	2,050	1,990	2,012	2,033	2,040	21,933	2,195	2,234
Elem/sec school	842	804	767	722	755	691	592	600	622	558	6,953	615	629
Government	491	452	388	363	358	347	308	297	258	254	3,516	203	212
Nonprofit organization	387	337	332	301	305	321	302	260	303	278	3,126	273	298
Industry	203	235	259	244	191	204	205	178	184	201	2,104	178	179
Self-employed	73	73	86	76	65	54	74	59	54	55	669	67	65
Other & unknown	7	14	12	4	5	5	4	14	6	2	73	21	33
Total	4,707	4,434	4,154	3,931	3,733	3,672	3,475	3,420	3,460	3,388	38,374	3,552	3,650
Total, all fields													
College/university	5,138	4,933	4,542	4,463	4,080	4,118	3,909	3,922	4,071	4,064	43,240	4,182	4,233
Elem/sec school	897	864	840	775	801	737	633	643	667	594	7,451	644	671
Government	1,442	1,344	1,091	1,063	1,089	973	960	929	919	884	10,694	842	818
Nonprofit organization	757	657	656	590	623	606	627	522	567	544	6,149	533	560
Industry	2,096	2,259	2,328	2,025	1,847	2,015	1,962	1,773	1,941	2,029	20,275	2,192	2,186
Self-employed	144	168	198	173	145	145	167	138	138	137	1,553	186	168
Other & unknown	23	38	36	24	28	34	34	47	38	31	333	68	93
Total	10,497	10,263	9,691	9,113	8,613	8,628	8,292	7,974	8,341	8,283	89,695	8,647	8,729

See footnotes at end of table.

Table 14. Science and engineering (S&E) doctorates awarded, by sex, major field, and type of employer for recipients with a definite commitment in the United States(1): 1970-1991, and totals for 1960-1964 and 1965-1969--continued

Sex, major field, and type of employer	Year of doctorate													
	Total 1960-1964	Total 1965-1969	Total 1960-1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
FEMALE														
Total, S&E														
College/university	902	1,794	2,696	468	589	620	680	758	795	779	762	754	784	6,989
Elem/sec school	41	49	90	9	18	28	24	20	34	36	36	41	30	276
Government	162	241	403	64	83	84	125	111	126	147	145	133	220	1,238
Nonprofit organization	101	205	306	41	42	61	79	76	96	97	127	159	170	948
Industry	77	122	199	30	26	28	65	52	79	96	100	152	171	799
Self-employed	21	19	40	9	4	8	6	10	14	22	16	17	29	135
Other & unknown	21	15	36	10	4	8	10	4	5	4	7	6	7	65
Total	1,325	2,445	3,770	631	766	837	989	1,031	1,149	1,181	1,193	1,262	1,411	10,450
Total, sciences														
College/university	896	1,785	2,681	465	588	615	673	750	780	770	750	741	773	6,905
Elem/sec school	41	49	90	9	18	28	24	20	34	36	36	41	30	276
Government	160	240	400	63	83	82	122	110	122	144	139	128	214	1,207
Nonprofit organization	100	204	304	41	42	61	79	76	95	97	126	159	168	944
Industry	72	112	184	29	23	26	58	48	68	86	84	140	153	715
Self-employed	21	19	40	9	4	8	5	10	14	22	16	17	29	134
Other & unknown	21	15	36	10	4	8	10	4	5	4	7	6	7	65
Total	1,311	2,424	3,735	626	762	828	971	1,018	1,118	1,159	1,158	1,232	1,374	10,246
Physical sciences														
College/university	82	172	254	40	31	40	28	19	26	26	17	17	24	268
Elem/sec school	-	1	1	-	1	2	2	1	1	-	1	1	1	10
Government	10	13	23	5	3	6	4	4	6	6	4	11	11	60
Nonprofit organization	1	10	11	3	-	1	-	-	1	4	2	4	2	17
Industry	46	60	106	12	6	8	17	22	31	27	29	45	50	247
Self-employed	-	1	1	-	-	-	1	-	-	-	-	-	-	1
Other & unknown	-	2	2	1	-	-	-	-	-	-	-	-	-	1
Total	139	259	398	61	41	57	52	46	65	63	53	78	88	604
Earth, atmos, & ocean sciences														
College/university	5	16	21	6	3	3	7	9	5	8	7	6	10	64
Elem/sec school	1	-	1	-	-	-	-	-	-	-	-	-	-	-
Government	-	7	7	1	3	-	1	-	2	7	3	6	2	25
Nonprofit organization	-	-	-	2	-	-	-	2	-	1	2	-	1	8
Industry	-	1	1	-	-	-	3	2	5	8	3	14	6	41
Self-employed	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other & unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	6	24	30	9	6	3	11	13	12	24	15	26	19	138
Mathematics														
College/university	69	142	211	36	39	38	51	47	50	56	45	54	52	468
Elem/sec school	1	-	1	-	-	1	-	-	1	1	-	-	-	3
Government	-	1	1	-	1	1	4	2	4	2	2	3	6	25
Nonprofit organization	1	3	4	-	-	1	-	1	1	-	-	2	2	7
Industry	5	5	10	-	2	2	7	1	5	3	8	13	12	53
Self-employed	-	-	-	-	1	-	-	-	-	-	-	-	-	1
Other & unknown	-	1	1	-	-	-	-	-	-	-	-	-	-	-
Total	76	152	228	36	43	43	62	51	61	62	55	72	72	557
Computer & information sciences														
College/university	-	-	-	-	-	-	-	-	-	-	1	2	13	16
Elem/sec school	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Government	-	-	-	-	-	-	-	-	-	-	-	-	2	2
Nonprofit organization	-	-	-	-	-	-	-	-	-	-	1	-	1	2
Industry	-	-	-	-	-	-	-	-	-	-	-	1	6	7
Self-employed	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other & unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-	2	3	22	27

See footnotes at end of table.

Table 14. Science and engineering (S&E) doctorates awarded, by sex, major field, and type of employer for recipients with a definite commitment in the United States(1): 1970-1991, and totals for 1960-1964 and 1965-1969--continued

Sex, major field, and type of employer	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-1989	1990	1991
FEMALE													
Total, S&E													
College/university	794	769	761	796	741	783	834	743	822	989	8,032	965	1,100
Elem/sec school	58	61	54	52	56	49	56	56	67	51	560	52	69
Government	191	250	207	208	198	259	221	198	193	255	2,180	232	284
Nonprofit organization	167	193	203	212	210	217	206	260	250	210	2,128	233	230
Industry	246	267	306	263	286	288	354	342	350	427	3,129	438	481
Self-employed	30	51	45	78	91	54	82	77	70	75	653	121	126
Other & unknown	9	10	7	6	6	8	13	21	14	11	105	39	34
Total	1,495	1,601	1,583	1,615	1,588	1,658	1,766	1,697	1,766	2,018	16,787	2,080	2,324
Total, sciences													
College/university	777	748	737	777	721	755	802	720	783	934	7,754	915	1,041
Elem/sec school	58	61	54	52	56	49	56	56	67	51	560	52	69
Government	185	245	197	201	190	244	210	188	185	227	2,072	211	257
Nonprofit organization	166	192	203	209	210	216	204	258	247	208	2,113	230	225
Industry	217	240	280	236	254	245	301	293	301	350	2,717	342	391
Self-employed	30	51	44	77	90	54	82	77	69	75	649	119	125
Other & unknown	9	9	7	6	6	8	13	21	14	11	104	36	34
Total	1,442	1,546	1,522	1,558	1,527	1,571	1,668	1,613	1,666	1,856	15,969	1,905	2,142
Physical sciences													
College/university	27	16	23	29	19	38	26	31	27	29	265	33	42
Elem/sec school	-	-	-	-	-	-	2	1	-	-	3	1	1
Government	8	15	8	9	16	12	16	9	4	12	109	13	18
Nonprofit organization	1	4	2	1	-	3	2	5	4	3	25	3	5
Industry	78	90	95	76	81	95	92	87	83	128	905	119	110
Self-employed	1	1	-	-	-	-	1	-	-	-	3	-	-
Other & unknown	-	-	-	-	-	-	-	1	-	2	3	1	1
Total	115	126	128	115	116	148	139	134	118	174	1,313	170	177
Earth, atmos, & ocean sciences													
College/university	11	6	12	21	19	18	23	21	25	21	177	22	20
Elem/sec school	-	-	-	-	-	-	1	1	-	-	2	-	-
Government	5	7	5	3	11	12	7	12	10	13	85	14	17
Nonprofit organization	-	-	-	2	-	-	-	1	-	-	3	2	1
Industry	9	12	22	12	10	9	5	8	7	10	104	12	21
Self-employed	-	-	-	-	2	1	-	2	1	-	6	1	1
Other & unknown	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	25	25	39	38	42	40	36	45	43	44	377	51	60
Mathematics													
College/university	47	46	37	46	58	42	39	39	39	68	461	56	71
Elem/sec school	2	-	-	1	-	-	-	1	-	-	4	1	-
Government	1	3	5	6	1	3	2	1	2	1	25	1	1
Nonprofit organization	-	1	-	1	2	-	-	2	1	2	9	-	-
Industry	8	13	12	8	6	8	12	8	10	6	91	8	13
Self-employed	-	-	-	1	-	-	-	-	-	-	1	-	-
Other & unknown	-	-	-	-	-	-	-	-	-	-	-	1	-
Total	58	63	54	63	67	53	53	51	52	77	591	67	85
Computer & information sciences													
College/university	9	9	7	13	14	11	17	28	28	42	178	46	42
Elem/sec school	-	-	-	-	-	-	-	-	-	-	-	1	1
Government	3	-	1	1	1	-	-	-	3	-	9	6	-
Nonprofit organization	-	-	-	-	3	1	2	1	-	-	7	1	-
Industry	4	7	5	4	4	1	5	9	7	22	68	10	19
Self-employed	-	-	-	1	-	-	1	-	-	-	2	-	3
Other & unknown	-	-	-	-	-	1	-	-	-	-	1	-	-
Total	16	16	13	19	22	14	25	38	38	64	265	64	65

See footnotes at end of table.

Table 14. Science and engineering (S&E) doctorates awarded, by sex, major field, and type of employer for recipients with a definite commitment in the United States(1): 1970-1991, and totals for 1960-1964 and 1965-1969--continued

Sex, major field, and type of employer	Total 1960-1964	Total 1965-1969	Total 1960-1969	Year of doctorate 1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total 1970-1979
FEMALE														
Agricultural & biological sciences														
College/university	279	470	749	101	134	99	144	121	129	118	104	115	115	1,180
Elem/sec school	2	1	3	1	2	4	1	4	2	1	2	1	1	19
Government	31	43	74	6	7	8	13	13	13	6	16	17	21	120
Nonprofit organization	22	45	67	7	3	15	9	7	9	9	7	12	8	86
Industry	12	20	32	7	8	2	12	9	8	13	21	16	25	121
Self-employed	-	1	1	2	-	-	-	1	2	-	1	1	-	7
Other & unknown	3	3	6	1	-	1	-	-	-	-	1	-	1	4
Total	349	583	932	125	154	129	179	155	163	147	152	162	171	1,537
Social sciences														
College/university	217	540	757	160	230	245	259	320	340	337	318	330	310	2,849
Elem/sec school	8	3	11	-	-	2	1	-	1	-	-	2	2	8
Government	26	30	56	6	16	14	17	20	17	31	24	21	48	214
Nonprofit organization	18	23	41	5	13	8	18	13	14	17	19	19	31	157
Industry	3	12	15	3	3	6	7	5	8	12	7	22	16	89
Self-employed	5	2	7	-	-	3	-	1	4	3	2	1	5	19
Other & unknown	5	1	6	3	-	3	2	1	1	4	5	3	5	27
Total	282	611	893	177	262	281	304	360	385	404	375	398	417	3,363
Psychology														
College/university	244	445	689	122	151	190	184	234	230	225	258	217	249	2,060
Elem/sec school	29	44	73	8	15	19	20	15	29	34	33	37	26	236
Government	93	146	239	45	53	53	83	71	80	92	90	70	124	761
Nonprofit organization	58	123	181	24	26	36	52	53	70	66	95	122	123	667
Industry	6	14	20	7	4	8	12	9	11	23	16	29	38	157
Self-employed	16	15	31	7	3	5	4	8	8	19	13	15	24	106
Other & unknown	13	8	21	5	4	4	8	3	4	-	1	3	1	33
Total	459	795	1,254	218	256	315	363	393	432	459	506	493	585	4,020
Engineering(2)														
College/university	6	9	15	3	1	5	7	8	15	9	12	13	11	84
Elem/sec school	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Government	2	1	3	1	-	2	3	1	4	3	6	5	6	31
Nonprofit organization	1	1	2	-	-	-	-	-	1	-	1	-	2	4
Industry	5	10	15	1	3	2	7	4	11	10	16	12	18	84
Self-employed	-	-	-	-	-	-	1	-	-	-	-	-	-	1
Other & unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	14	21	35	5	4	9	18	13	31	22	35	30	37	204
Total, non-S&E(3)														
College/university	1,848	3,812	5,660	1,183	1,253	1,442	1,540	1,529	1,712	1,847	1,778	1,778	1,860	15,922
Elem/sec school	293	452	745	97	148	191	209	246	296	347	350	355	397	2,636
Government	62	134	196	43	68	69	103	107	176	158	179	210	241	1,354
Nonprofit organization	72	126	198	40	50	52	64	68	98	120	107	119	143	861
Industry	10	24	34	10	9	14	19	33	42	27	43	55	80	332
Self-employed	15	15	30	9	8	5	12	8	21	19	20	33	31	166
Other & unknown	13	22	35	8	6	6	8	4	5	10	5	3	10	65
Total	2,313	4,585	6,898	1,390	1,542	1,779	1,955	1,995	2,350	2,528	2,482	2,553	2,762	21,336
Total, all fields														
College/university	2,750	5,606	8,356	1,651	1,842	2,062	2,220	2,287	2,507	2,626	2,540	2,532	2,644	22,911
Elem/sec school	334	501	835	106	166	219	233	266	330	383	386	396	427	2,912
Government	224	375	599	107	151	153	228	218	302	305	324	343	461	2,592
Nonprofit organization	173	331	504	81	92	113	143	144	194	217	234	278	313	1,809
Industry	87	146	233	40	35	42	84	85	121	123	143	207	251	1,131
Self-employed	36	34	70	18	12	13	18	18	35	41	36	50	60	301
Other & unknown	34	37	71	18	10	14	18	8	10	14	12	9	17	130
Total	3,638	7,030	10,668	2,021	2,308	2,616	2,944	3,026	3,499	3,709	3,675	3,815	4,173	31,786

See footnotes at end of table.

Table 14. Science and engineering (S&E) doctorates awarded, by sex, major field, and type of employer for recipients with a definite commitment in the United States(1): 1970-1991, and totals for 1960-1964 and 1965-1969--continued

Sex, major field, and type of employer	Year of doctorate												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-1989	1990	1991
FEMALE													
Agricultural & biological sciences													
College/university	126	124	115	122	92	124	125	121	111	145	1,205	119	140
Elem/sec school	-	1	-	2	1	3	2	-	2	4	15	-	1
Government	27	34	26	41	28	37	29	19	36	36	313	29	41
Nonprofit organization	10	9	19	9	4	11	6	14	9	12	103	17	13
Industry	40	38	56	43	50	46	56	48	53	63	493	57	72
Self-employed	-	3	4	3	-	3	3	3	6	4	29	4	6
Other & unknown	-	-	-	-	-	-	-	-	-	-	-	1	2
Total	203	209	220	220	175	224	221	205	217	264	2,158	227	275
Social sciences													
College/university	293	283	299	301	272	266	326	270	309	348	2,967	353	412
Elem/sec school	5	3	5	6	3	2	6	5	10	3	48	4	6
Government	37	47	41	33	38	50	47	39	38	57	427	41	43
Nonprofit organization	28	36	29	27	35	32	37	47	47	33	351	36	32
Industry	27	27	25	32	28	24	33	33	31	16	276	26	29
Self-employed	2	6	4	8	13	8	10	9	12	9	81	12	17
Other & unknown	6	7	6	3	5	6	9	8	9	4	63	9	7
Total	398	409	409	410	394	388	468	411	456	470	4,213	481	546
Psychology													
College/university	264	264	244	245	247	256	246	210	244	281	2,501	286	314
Elem/sec school	51	57	49	43	52	44	45	48	55	44	488	45	60
Government	104	139	111	108	95	130	109	108	92	108	1,104	107	137
Nonprofit organization	127	142	153	169	166	169	157	188	186	158	1,615	171	174
Industry	51	53	65	61	75	62	98	100	110	105	780	110	127
Self-employed	27	41	36	64	75	42	67	63	50	62	527	102	98
Other & unknown	3	2	1	3	1	1	4	12	5	5	37	24	24
Total	627	698	659	693	711	704	726	729	742	763	7,052	845	934
Engineering (2)													
College/university	17	21	24	19	20	28	32	23	39	55	278	50	59
Elem/sec school	-	-	-	-	-	-	-	-	-	-	-	-	-
Government	6	5	10	7	8	15	11	10	8	28	108	21	27
Nonprofit organization	1	1	-	3	-	1	2	2	3	2	15	3	5
Industry	29	27	26	27	32	43	53	49	49	77	412	96	90
Self-employed	-	-	1	1	1	-	-	-	1	-	4	2	1
Other & unknown	-	1	-	-	-	-	-	-	-	-	1	3	-
Total	53	55	61	57	61	87	98	84	100	162	818	175	182
Total, non-S&E(3)													
College/university	1,979	2,023	1,975	1,930	1,949	1,891	2,003	2,066	2,093	2,274	20,183	2,431	2,600
Elem/sec school	524	549	517	607	559	557	664	622	636	633	5,868	732	784
Government	230	283	280	229	272	289	295	215	239	276	2,608	222	203
Nonprofit organization	146	158	202	199	189	202	182	203	191	215	1,887	217	234
Industry	112	90	121	110	114	113	129	106	110	112	1,117	123	110
Self-employed	46	66	84	81	74	77	80	68	87	77	740	115	125
Other & unknown	7	4	11	9	5	5	5	9	8	5	68	41	50
Total	3,044	3,173	3. 90	3,165	3,162	3,134	3,358	3,289	3,364	3,592	32,471	3,881	4,106
Total, all fields													
College/university	2,773	2,792	2,736	2,726	2,690	2,674	2,837	2,809	2,915	3,263	28,215	3,396	3,700
Elem/sec school	582	610	571	659	615	606	720	678	703	684	6,428	784	853
Government	421	533	487	437	470	548	516	413	432	531	4,788	454	487
Nonprofit organization	313	351	405	411	399	419	388	463	441	425	4,015	450	464
Industry	358	357	427	373	400	401	483	448	460	539	4,246	561	591
Self-employed	76	117	129	159	165	131	162	145	157	152	1,393	236	251
Other & unknown	16	14	18	15	11	13	18	30	22	16	173	80	84
Total	4,539	4,774	4,773	4,780	4,750	4,792	5,124	4,986	5,130	5,610	49,258	5,961	6,430

(1) Only doctorate recipients with definite employment commitments in the United States are reported here. Approximately two-thirds of all S&E doctorate recipients have definite postgraduation plans at receipt of doctorate. See Table 15 for actual numbers by field of study. A "definite commitment" is defined as having a signed contract, acceptance of a formal offer, etc.

(2) Subtotal includes doctorate recipients whose engineering fields are not separately shown.

(3) Non-S&E doctorate recipients include those whose field of specialization is unknown.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

Table 15. Science and engineering (S&E) doctorates awarded, by citizenship status, major field, and postgraduation plans of recipients: selected years

Citizenship and major field	Total docts	Total with defin plans	% with defin plans	Postgraduation plans							
				Definite plans in the United States						Defin plans abroad	Defin plans locn unkn
				Total	Pdoc study	Acad empl	Indus empl	Other empl	Unkn type		
YEAR OF DOCTORATE - 1970											
TOTAL(1)											
Total, S&E	18,044	13,830	76.6	12,026	2,789	5,263	2,447	1,506	21	1,337	467
Total, sciences	14,598	11,322	77.6	9,826	2,645	4,676	1,328	1,160	17	1,146	350
Physical sciences	3,893	2,951	75.8	2,626	1,002	573	801	247	3	248	77
Physics/astronomy	1,655	1,182	71.4	1,024	398	282	195	149	-	125	33
Chemistry	2,238	1,769	79.0	1,602	604	291	606	98	3	123	44
Earth, atmos, & ocean sci	498	396	79.5	339	73	148	72	46	-	51	6
Mathematics	1,225	916	74.8	821	52	617	99	52	1	72	23
Computer/info sciences	-	-	-	-	-	-	-	-	-	-	-
Agric & biol sci	4,165	3,220	77.3	2,732	1,252	1,005	207	261	7	395	93
Agricultural sciences	804	590	73.4	427	62	219	85	61	-	136	27
Biological sciences	3,361	2,630	78.3	2,305	1,190	786	122	200	7	259	66
Social sciences	2,927	2,404	82.1	1,997	78	1,648	73	194	4	306	101
Psychology	1,890	1,435	75.9	1,311	188	685	76	360	2	74	50
Total, engineering(2)	3,446	2,508	72.8	2,200	144	587	1,119	346	4	191	117
Chemical	445	343	77.1	303	17	48	224	14	-	25	15
Civil	311	220	70.7	175	11	86	53	24	1	32	13
Electrical/electronics	857	601	70.1	541	30	134	285	91	1	34	26
Materials science	35	25	71.4	22	3	1	13	5	-	2	1
Mechanical	635	455	71.7	412	15	133	197	67	-	29	14
Total, non-S&E(3)	11,454	8,766	76.5	7,896	145	6,274	138	1,303	36	527	343
Total, all fields	29,498	22,596	76.6	19,922	2,934	11,537	2,585	2,809	57	1,864	810
U.S. CITIZENS											
Total, S&E	14,567	11,641	79.9	10,765	2,302	4,833	2,170	1,445	15	501	375
Total, sciences	12,049	9,642	80.0	8,901	2,218	4,326	1,228	1,116	13	458	283
Physical sciences	3,211	2,545	79.3	2,329	817	533	740	238	1	152	64
Physics/astronomy	1,337	993	74.3	894	321	255	175	143	-	73	26
Chemistry	1,874	1,552	82.8	1,435	496	278	565	95	1	79	38
Earth, atmos, & ocean sci	396	324	81.8	301	55	136	64	46	-	17	6
Mathematics	1,018	793	77.9	744	41	563	88	51	1	27	22
Computer/info sciences	-	-	-	-	-	-	-	-	-	-	-
Agric & biol sci	3,359	2,674	79.6	2,468	1,067	954	191	249	7	138	68
Agricultural sciences	555	421	75.9	386	38	210	78	60	-	20	15
Biological sciences	2,804	2,253	80.3	2,082	1,029	744	113	189	7	118	53
Social sciences	2,290	1,950	85.2	1,793	64	1,476	70	180	3	78	79
Psychology	1,775	1,356	76.4	1,266	174	664	75	352	1	46	44
Total, engineering(2)	2,518	1,999	79.4	1,864	84	507	942	329	2	43	92
Chemical	310	267	86.1	249	8	43	184	14	-	8	10
Civil	166	143	86.1	130	3	66	41	20	-	6	7
Electrical/electronics	667	481	72.1	454	20	109	235	89	1	5	22
Materials science	29	21	72.4	19	2	-	12	5	-	1	1
Mechanical	485	383	79.0	367	13	122	166	66	-	6	10
Total, non-S&E(3)	10,348	8,138	78.6	7,617	122	6,042	130	1,291	32	210	311
Total, all fields	24,915	19,779	79.4	18,382	2,424	10,875	2,300	2,736	47	711	686
NON-U.S. CITIZENS, PERMANENT VISAS											
Total, S&E	1,242	769	61.9	665	186	245	196	34	4	62	42
Total, sciences	808	537	66.5	462	162	202	72	24	2	51	24
Physical sciences	263	152	57.8	136	70	17	41	7	1	9	7
Physics/astronomy	99	60	60.6	51	24	10	12	5	-	5	4
Chemistry	164	92	56.1	85	46	7	29	2	1	4	3
Earth, atmos, & ocean sci	29	19	65.5	18	5	6	7	-	-	1	-
Mathematics	58	38	65.5	32	2	21	8	1	-	5	1
Computer/info sciences	-	-	-	-	-	-	-	-	-	-	-
Agric & biol sci	218	144	66.1	121	69	31	15	6	-	15	8
Agricultural sciences	47	25	53.2	17	4	6	7	-	-	6	2
Biological sciences	171	119	69.6	104	65	25	8	6	-	9	6
Social sciences	199	154	77.4	129	7	116	1	5	-	20	5
Psychology	41	30	73.2	26	9	11	-	5	1	1	3
Total, engineering(2)	434	232	53.5	203	24	43	124	10	2	11	18
Chemical	82	43	52.4	37	5	4	28	-	-	2	4
Civil	58	32	55.2	23	1	13	6	2	1	5	4
Electrical/electronics	93	56	60.2	51	5	10	34	2	-	1	4
Materials science	2	1	50.0	1	-	-	1	-	-	-	-
Mechanical	72	35	48.6	32	1	6	24	1	-	1	2
Total, non-S&E(3)	334	225	67.4	184	11	159	6	7	1	26	15
Total, all fields	1,576	994	63.1	849	197	404	202	41	5	88	57
NON-U.S. CITIZENS, TEMPORARY VISAS											
Total, S&E	2,053	1,405	68.4	581	296	180	77	26	2	774	50
Total, sciences	1,579	1,129	71.5	449	260	143	25	19	2	637	43
Physical sciences	363	249	68.6	156	113	23	17	2	1	87	6
Physics/astronomy	187	128	68.4	78	53	17	7	1	-	47	3
Chemistry	176	121	68.8	78	60	6	10	1	1	40	3
Earth, atmos, & ocean sci	68	52	76.5	19	13	5	1	-	-	33	-
Mathematics	134	84	62.7	44	9	32	3	-	-	40	-
Computer/info sciences	-	-	-	-	-	-	-	-	-	-	-
Agric & biol sci	560	400	71.4	141	114	20	1	6	-	242	17
Agricultural sciences	199	144	72.4	24	20	3	-	1	-	110	10
Biological sciences	361	256	70.9	117	94	17	1	5	-	132	7
Social sciences	396	298	75.3	73	7	54	2	9	1	208	17
Psychology	58	46	79.3	16	4	9	1	2	-	27	3
Total, engineering(2)	474	276	58.2	132	36	37	52	7	-	137	7
Chemical	52	33	63.5	17	4	1	12	-	-	15	1
Civil	86	45	52.3	22	7	7	6	2	-	21	2
Electrical/electronics	93	63	67.7	35	5	15	15	-	-	28	-
Materials science	4	3	75.0	2	1	1	-	-	-	1	-
Mechanical	76	37	48.7	13	1	5	7	-	-	22	2
Total, non-S&E(3)	519	392	75.5	85	12	64	1	5	3	291	16
Total, all fields	2,572	1,797	69.9	666	308	244	78	31	5	1,065	66

See footnotes at end of table.

Table 15. Science and engineering (S&E) doctorates awarded, by citizenship status, major field, and postgraduation plans of recipients: selected years--continued

		Postgraduation plans									
				Definite plans in the United States							
Citizenship and major field	Total docts	Total with defin plans	% with defin plans	Total	Pdoc study	Acad empl	Indus empl	Other empl	Unkn type	Defin plans abroad	Defin plans locn unkn
YEAR OF DOCTORATE - 1980											
TOTAL(1)											
Total, S&E	17,523	12,617	72.0	10,886	3,571	3,228	2,240	1,817	30	1,237	494
Total, sciences	15,044	10,783	71.7	9,366	3,381	2,876	1,501	1,582	26	1,015	402
Physical sciences	2,521	1,896	75.2	1,713	784	144	653	129	3	141	42
Physics/astronomy	983	717	72.9	632	333	69	156	73	1	70	15
Chemistry	1,538	1,179	76.7	1,081	451	75	497	56	2	71	27
Earth, atmos, & ocean sci	628	486	77.4	425	134	101	110	80	-	46	15
Mathematics	744	541	72.7	476	54	303	85	32	2	46	19
Computer/info sciences	218	160	73.4	145	12	63	57	13	-	9	6
Agric & biol sci	4,715	3,443	73.0	2,938	1,911	562	242	213	10	400	105
Agricultural sciences	912	634	69.5	421	77	199	90	53	2	184	29
Biological sciences	3,803	2,809	73.9	2,517	1,834	363	152	160	8	216	76
Social sciences	3,120	2,172	69.6	1,751	124	1,135	136	351	5	326	95
Psychology	3,098	2,085	67.3	1,918	362	568	218	764	6	47	120
Total, engineering(2)	2,479	1,834	74.0	1,520	190	352	739	235	4	222	92
Chemical	285	217	76.1	193	22	42	120	9	-	15	9
Civil	240	175	72.9	116	13	53	36	14	-	47	12
Electrical/electronics	478	356	74.5	312	34	55	168	54	1	20	24
Materials science	143	109	76.2	97	17	9	63	7	1	7	5
Mechanical	384	275	71.6	232	29	58	109	35	1	32	11
Total, non-S&E(3)	13,497	9,303	68.9	8,035	253	4,683	434	2,634	31	630	638
Total, all fields	31,020	21,920	70.7	18,921	3,824	7,911	2,674	4,451	61	1,867	1,132
U.S. CITIZENS											
Total, S&E	13,410	10,158	75.7	9,516	3,014	2,939	1,808	1,732	23	289	353
Total, sciences	12,155	9,126	75.1	8,542	2,950	2,685	1,361	1,525	21	270	314
Physical sciences	1,884	1,515	80.4	1,437	595	128	587	125	2	51	27
Physics/astronomy	715	554	77.5	522	255	64	132	71	-	20	12
Chemistry	1,169	961	82.2	915	340	64	455	54	2	31	15
Earth, atmos, & ocean sci	512	412	80.5	385	110	96	100	79	-	14	13
Mathematics	520	416	80.0	399	38	260	70	30	1	5	12
Computer/info sciences	156	118	75.6	113	8	50	42	13	-	2	3
Agric & biol sci	3,849	2,919	75.8	2,726	1,745	542	222	209	8	121	72
Agricultural sciences	570	413	72.5	388	63	194	77	52	2	14	11
Biological sciences	3,279	2,506	76.4	2,338	1,682	348	145	157	6	107	61
Social sciences	2,375	1,733	73.0	1,614	106	1,058	126	320	4	50	69
Psychology	2,859	2,013	70.4	1,868	348	551	214	749	6	27	118
Total, engineering(2)	1,255	1,032	82.2	974	64	254	447	207	2	19	39
Chemical	124	113	91.1	106	5	28	68	5	-	2	5
Civil	98	77	78.6	72	2	37	22	11	-	-	5
Electrical/electronics	270	217	80.4	202	13	38	100	51	-	4	11
Materials science	68	60	88.2	57	6	7	37	6	1	2	1
Mechanical	184	150	81.5	143	7	41	63	31	1	3	4
Total, non-S&E(3)	11,812	8,479	71.8	7,778	217	4,515	410	2,606	30	130	571
Total, all fields	25,222	18,637	73.9	17,294	3,231	7,454	2,218	4,338	53	419	924
NON-U.S. CITIZENS, PERMANENT VISAS											
Total, S&E	952	623	65.4	552	150	116	244	42	-	33	38
Total, sciences	653	400	61.3	354	139	89	96	30	-	29	17
Physical sciences	151	100	66.2	94	41	4	48	1	-	4	2
Physics/astronomy	51	36	70.6	33	14	1	17	1	-	3	-
Chemistry	100	64	64.0	61	27	3	31	-	-	1	2
Earth, atmos, & ocean sci	26	19	73.1	18	10	2	5	1	-	1	-
Mathematics	62	40	64.5	34	5	19	9	1	-	4	2
Computer/info sciences	13	11	84.6	10	-	4	6	-	-	-	1
Agric & biol sci	186	113	60.8	98	71	9	15	3	-	9	6
Agricultural sciences	35	21	60.0	15	5	2	8	-	-	5	1
Biological sciences	151	92	60.9	83	66	7	7	3	-	4	5
Social sciences	165	86	52.1	70	6	42	9	13	-	11	5
Psychology	50	31	62.0	30	6	9	4	11	-	-	1
Total, engineering(2)	299	223	74.6	198	11	27	148	12	-	4	21
Chemical	40	34	85.0	32	2	3	26	1	-	-	2
Civil	24	17	70.8	15	2	3	9	1	-	-	2
Electrical/electronics	52	43	82.7	38	2	6	28	2	-	-	5
Materials science	19	14	73.7	11	-	2	9	-	-	-	3
Mechanical	59	41	69.5	37	3	4	29	1	-	-	4
Total, non-S&E(3)	338	192	56.8	159	12	110	17	19	1	18	15
Total, all fields	1,290	815	63.2	711	162	226	261	61	1	51	53
NON-U.S. CITIZENS, TEMPORARY VISAS											
Total, S&E	2,710	1,830	67.5	814	405	171	188	43	7	914	102
Total, sciences	1,859	1,252	67.3	467	290	101	44	27	5	715	70
Physical sciences	426	279	65.5	180	147	11	18	3	1	86	13
Physics/astronomy	189	126	66.7	76	63	4	7	1	1	47	3
Chemistry	237	153	64.6	104	84	7	11	2	-	39	10
Earth, atmos, & ocean sci	80	55	68.8	22	14	3	5	-	-	31	2
Mathematics	139	85	61.2	43	11	24	6	1	1	37	5
Computer/info sciences	43	31	72.1	22	4	9	9	-	-	7	2
Agric & biol sci	592	411	69.4	114	95	11	5	1	2	270	27
Agricultural sciences	296	200	67.6	18	9	3	5	1	-	165	17
Biological sciences	296	211	71.3	96	86	8	-	-	2	105	10
Social sciences	508	351	69.1	67	12	35	1	18	1	264	20
Psychology	71	40	56.3	19	7	8	-	4	-	20	1
Total, engineering(2)	851	578	67.9	347	115	70	144	16	2	199	32
Chemical	113	70	61.9	55	15	11	26	3	-	13	2
Civil	112	80	71.4	28	9	12	5	2	-	47	5
Electrical/electronics	139	96	69.1	72	19	11	40	1	1	16	8
Materials science	52	35	67.3	29	11	-	17	1	-	5	1
Mechanical	130	84	64.6	52	19	13	17	3	-	29	3
Total, non-S&E(3)	934	619	66.3	92	24	56	7	5	-	477	50
Total, all fields	3,644	2,449	67.2	906	429	227	195	48	7	1,391	152

See footnotes at end of table.

Table 15. Science and engineering (S&E) doctorates awarded, by citizenship status, major field, and postgraduation plans of recipients: selected years--continued

				Postgraduation plans							
				Definite plans in the United States							
Citizenship and major field	Total docts	Total with defin plans	% with defin plans	Total	Pdoc study	Acad empl	Indus empl	Other empl	Unkn type	Defin plans abroad	Defin plans locn unkn
YEAR OF DOCTORATE -1990											
TOTAL(1)											
Total, S&E	22,677	14,506	64.0	11,875	4,676	2,952	2,692	1,531	24	1,980	651
Total, sciences	17,784	11,672	65.6	9,730	4,307	2,489	1,640	1,273	21	1,450	492
Physical sciences	3,492	2,348	67.2	1,941	1,097	139	611	92	2	296	111
Physics/astronomy	1,392	879	63.1	683	456	69	111	47	-	153	43
Chemistry	2,100	1,469	70.0	1,258	641	70	500	45	2	143	68
Earth, atmos, & ocean sci	769	496	64.5	405	155	87	103	58	2	70	21
Mathematics	892	541	60.7	423	122	244	46	11	-	92	26
Computer/info sciences	705	458	65.0	377	40	193	113	31	-	59	22
Agric & biol sci	5,507	3,832	69.6	3,149	2,348	353	250	194	4	513	170
Agricultural sciences	1,176	706	60.0	443	168	107	110	57	1	230	33
Biological sciences	4,331	3,126	72.2	2,706	2,180	246	140	137	3	283	137
Social sciences	3,150	1,900	60.3	1,460	117	964	121	251	7	377	63
Psychology	3,269	2,097	64.1	1,975	428	509	396	636	6	43	79
Total, engineering(2)	4,893	2,834	57.9	2,145	369	463	1,052	258	3	530	159
Chemical	561	409	72.9	341	58	31	235	17	-	51	17
Civil	505	263	52.1	191	25	65	72	28	1	58	14
Electrical/electronics	1,110	609	54.9	467	52	110	252	52	1	104	38
Materials science	307	197	64.2	140	45	11	68	16	-	43	14
Mechanical	883	461	52.2	343	65	73	155	49	1	84	34
Total, non-S&E(3)	13,380	8,896	66.5	7,851	374	4,626	483	2,324	44	682	363
Total, all fields	36,057	23,402	64.9	19,726	5,050	7,578	3,175	3,855	68	2,662	1,014
U.S. CITIZENS											
Total, S&E	14,010	10,045	71.7	9,369	3,419	2,392	2,103	1,438	17	404	272
Total, sciences	12,057	8,620	71.5	8,039	3,271	2,078	1,462	1,212	16	344	237
Physical sciences	2,149	1,594	74.2	1,459	717	108	548	86	-	101	34
Physics/astronomy	751	508	67.6	441	258	49	90	44	-	56	11
Chemistry	1,398	1,086	77.7	1,018	459	59	458	42	-	45	23
Earth, atmos, & ocean sci	535	381	71.2	347	118	81	92	56	-	22	12
Mathematics	375	262	69.9	250	52	158	30	10	-	7	5
Computer/info sciences	348	265	76.1	250	19	137	66	28	-	10	5
Agric & biol sci	3,822	2,837	74.2	2,634	1,886	328	230	186	4	129	74
Agricultural sciences	630	409	64.9	376	116	103	100	56	1	26	7
Biological sciences	3,192	2,428	76.1	2,258	1,770	225	130	130	3	103	67
Social sciences	1,919	1,301	67.8	1,201	85	784	103	222	7	63	37
Psychology	2,909	1,980	68.1	1,898	394	482	393	624	5	12	70
Total, engineering(2)	1,953	1,425	73.0	1,330	148	314	641	226	1	60	35
Chemical	307	253	82.4	236	30	26	166	14	-	13	4
Civil	156	115	73.7	109	6	46	35	22	-	3	3
Electrical/electronics	438	292	66.7	270	23	65	136	46	-	12	10
Materials science	126	99	78.6	90	20	9	46	15	-	8	1
Mechanical	299	211	70.6	199	19	50	86	43	1	6	6
Total, non-S&E(3)	10,876	7,729	71.1	7,307	308	4,225	445	2,288	41	137	285
Total, all fields	24,886	17,774	71.4	16,676	3,727	6,617	2,548	3,726	58	541	557
NON-U.S. CITIZENS, PERMANENT VISAS											
Total, S&E	1,186	643	54.2	502	186	141	140	34	1	76	65
Total, sciences	799	442	55.3	341	158	110	47	26	-	57	44
Physical sciences	167	99	59.3	73	44	10	19	-	-	13	13
Physics/astronomy	69	39	56.5	29	21	5	3	-	-	7	3
Chemistry	98	60	61.2	44	23	5	16	-	-	6	10
Earth, atmos, & ocean sci	23	13	56.5	9	3	2	2	2	-	2	2
Mathematics	47	23	48.9	19	6	10	3	-	-	3	1
Computer/info sciences	55	30	54.5	25	2	9	12	2	-	3	2
Agric & biol sci	246	141	57.3	101	83	12	3	3	-	20	20
Agricultural sciences	57	20	35.1	9	6	2	1	-	-	8	3
Biological sciences	189	121	64.0	92	77	10	2	3	-	12	17
Social sciences	188	93	49.5	76	7	53	6	10	-	14	3
Psychology	73	43	58.9	38	13	14	2	9	-	2	3
Total, engineering(2)	387	201	51.9	161	28	31	93	8	1	19	21
Chemical	42	31	73.8	27	4	-	22	1	-	1	3
Civil	59	28	47.5	20	2	5	10	2	1	4	4
Electrical/electronics	89	40	44.9	33	3	9	21	-	-	2	5
Materials science	16	7	43.8	4	3	-	1	-	-	2	1
Mechanical	68	28	41.2	24	5	4	14	1	-	2	2
Total, non-S&E(3)	509	272	53.4	206	23	141	15	25	2	38	28
Total, all fields	1,695	915	54.0	708	209	282	155	59	3	114	93
NON-U.S. CITIZENS, TEMPORARY VISAS											
Total, S&E	6,535	3,786	57.9	1,988	1,066	414	445	57	6	1,488	310
Total, sciences	4,262	2,586	60.7	1,338	873	298	129	33	5	1,040	208
Physical sciences	1,065	653	61.3	408	336	21	44	5	2	182	63
Physics/astronomy	536	332	61.9	213	177	15	18	3	-	90	29
Chemistry	529	321	60.7	195	159	6	26	2	2	92	34
Earth, atmos, & ocean sci	175	102	58.3	49	34	4	9	-	2	46	7
Mathematics	424	253	59.7	153	64	76	12	1	-	80	20
Computer/info sciences	271	160	59.0	100	19	45	35	1	-	45	15
Agric & biol sci	1,293	845	65.4	408	374	13	17	4	-	361	76
Agricultural sciences	439	273	62.2	57	46	2	9	-	-	193	23
Biological sciences	854	572	67.0	351	328	11	8	4	-	168	53
Social sciences	917	501	54.6	181	25	126	11	19	-	298	22
Psychology	117	72	61.5	39	21	13	1	3	1	28	5
Total, engineering(2)	2,273	1,200	52.8	650	193	116	316	24	1	448	102
Chemical	198	124	62.6	77	24	5	46	2	-	37	10
Civil	262	118	45.0	62	17	14	27	4	-	49	7
Electrical/electronics	517	275	53.2	162	26	35	94	6	1	90	23
Materials science	150	90	60.0	45	22	1	21	1	-	33	12
Mechanical	464	221	47.6	120	41	19	55	5	-	76	25
Total, non-S&E(3)	1,539	882	57.3	333	43	257	23	9	1	500	49
Total, all fields	8,074	4,668	57.8	2,321	1,109	671	468	66	7	1,988	359

See footnotes at end of table.

Table 15. Science and engineering (S&E) doctorates awarded, by citizenship status, major field, and postgraduation plans of recipients: selected years--continued

Citizenship and major field	Total docts	Total with defin plans	% with defin plans	Postgraduation plans							
				Definite plans in the United States						Defin plans abroad	Defin plans locn unkn
				Total	Pdoc study	Acad empl	Indus empl	Other empl	Unkn type		
YEAR OF DOCTORATE - 1985											
TOTAL(1)											
Total, S&E	18,712	12,473	66.7	10,409	3,761	2,851	2,244	1,519	34	1,416	648
Total, sciences	15,546	10,490	67.5	8,868	3,542	2,449	1,509	1,341	27	1,101	521
Physical sciences	2,916	2,086	71.5	1,828	892	169	650	111	6	168	90
Physics/astronomy	1,080	758	70.2	638	333	80	157	67	1	86	34
Chemistry	1,836	1,328	72.3	1,190	559	89	493	44	5	82	56
Earth, atmos, & ocean sci	617	415	67.3	343	132	98	64	48	1	65	7
Mathematics	688	474	68.9	388	60	249	52	25	2	61	25
Computer/info sciences	310	215	69.4	186	20	90	64	12	-	23	6
Agric & biol sci	4,904	3,419	69.7	2,883	1,943	476	278	180	6	422	114
Agricultural sciences	1,111	692	62.3	446	106	177	109	54	-	205	41
Biological sciences	3,793	2,727	71.9	2,437	1,837	299	169	126	6	217	73
Social sciences	2,994	1,843	61.6	1,402	114	865	128	283	12	314	127
Psychology	3,117	2,038	65.4	1,838	381	502	273	682	-	48	152
Total, engineering(2)	3,166	1,983	62.6	1,541	219	402	735	178	7	315	127
Chemical	440	309	70.2	260	38	33	177	12	-	36	13
Civil	358	200	55.9	125	11	55	42	16	1	61	14
Electrical/electronics	631	400	63.4	330	34	89	176	30	1	36	34
Materials science	188	130	69.1	113	31	9	62	10	1	11	6
Mechanical	513	306	59.6	246	31	88	102	23	2	41	19
Total, non-S&E(3)	12,585	8,480	67.4	7,066	244	3,941	448	2,417	16	673	741
Total, all fields	31,297	20,953	66.9	17,475	4,005	6,792	2,692	3,936	50	2,089	1,389
U.S. CITIZENS											
Total, S&E	12,947	9,404	72.6	8,717	3,024	2,377	1,843	1,451	22	294	393
Total, sciences	11,668	8,427	72.2	7,809	2,953	2,148	1,395	1,293	20	262	356
Physical sciences	2,043	1,604	78.5	1,489	635	143	598	108	5	74	41
Physics/astronomy	698	539	77.2	490	223	63	138	65	1	36	13
Chemistry	1,345	1,065	79.2	999	412	80	460	43	4	38	28
Earth, atmos, & ocean sci	442	323	73.1	298	102	88	61	46	1	20	5
Mathematics	376	283	75.3	270	34	169	44	23	-	4	9
Computer/info sciences	189	132	69.8	124	7	62	45	10	-	4	4
Agric & biol sci	3,831	2,816	73.5	2,628	1,724	456	268	175	5	106	82
Agricultural sciences	683	444	65.0	405	81	166	105	53	-	17	22
Biological sciences	3,148	2,372	75.3	2,223	1,643	290	163	122	5	89	60
Social sciences	1,982	1,320	66.6	1,209	91	741	114	254	9	35	76
Psychology	2,805	1,949	69.5	1,791	360	489	265	677	-	19	139
Total, engineering(2)	1,279	977	76.4	908	71	229	448	158	2	32	37
Chemical	218	178	81.7	169	10	20	128	11	-	8	1
Civil	114	80	70.2	72	-	37	22	13	-	5	3
Electrical/electronics	247	190	76.9	175	12	42	95	26	-	3	12
Materials science	89	73	82.0	69	10	4	46	9	-	2	2
Mechanical	193	143	74.1	136	10	52	52	21	1	3	4
Total, non-S&E(3)	10,423	7,474	71.7	6,715	210	3,679	419	2,391	16	107	652
Total, all fields	23,370	16,878	72.2	15,432	3,234	6,056	2,262	3,842	38	401	1,045
NON-U.S. CITIZENS, PERMANENT VISAS											
Total, S&E	929	535	57.6	453	123	126	176	23	5	41	41
Total, sciences	614	352	57.3	289	115	92	64	15	3	34	29
Physical sciences	135	88	65.2	76	38	6	31	-	1	4	8
Physics/astronomy	48	27	56.3	24	13	3	8	-	-	1	2
Chemistry	87	61	70.1	52	25	3	23	-	1	3	5
Earth, atmos, & ocean sci	32	14	43.8	12	4	5	2	1	-	1	1
Mathematics	42	24	57.1	19	6	8	4	-	1	3	2
Computer/info sciences	24	18	75.0	15	1	5	9	-	-	3	-
Agric & biol sci	151	88	58.3	73	53	11	6	3	-	12	3
Agricultural sciences	43	21	48.8	12	4	5	2	1	-	8	1
Biological sciences	108	67	62.0	61	49	6	4	2	-	4	2
Social sciences	171	84	49.1	66	3	48	5	9	1	10	8
Psychology	59	36	61.0	28	10	9	7	2	-	1	7
Total, engineering(2)	315	183	58.1	164	8	34	112	8	2	7	12
Chemical	39	27	69.2	27	2	2	23	-	-	-	-
Civil	38	20	52.6	18	1	4	12	1	-	1	1
Electrical/electronics	65	42	64.6	40	3	10	24	3	-	1	1
Materials science	13	7	53.8	6	-	2	3	-	1	1	-
Mechanical	58	30	51.7	28	1	7	20	-	-	-	2
Total, non-S&E(3)	395	228	57.7	180	15	139	15	11	-	32	16
Total, all fields	1,324	763	57.6	633	138	265	191	34	5	73	57
NON-U.S. CITIZENS, TEMPORARY VISAS											
Total, S&E	4,028	2,522	62.6	1,230	610	345	223	45	7	1,080	212
Total, sciences	2,609	1,701	65.2	763	470	207	49	33	4	804	134
Physical sciences	620	391	63.1	260	218	19	20	3	-	90	41
Physics/astronomy	290	190	65.5	122	96	13	11	2	-	49	19
Chemistry	330	201	60.9	138	122	6	9	1	-	41	22
Earth, atmos, & ocean sci	119	78	65.5	33	26	5	1	1	-	44	1
Mathematics	238	166	69.7	98	19	72	4	2	1	54	14
Computer/info sciences	89	65	73.0	47	12	23	10	2	-	16	2
Agric & biol sci	779	512	65.7	180	164	9	4	2	1	303	29
Agricultural sciences	355	226	63.7	29	21	6	2	-	-	179	18
Biological sciences	424	286	67.5	151	143	3	2	2	1	124	11
Social sciences	683	437	64.0	126	20	75	9	20	2	269	42
Psychology	81	52	64.2	19	11	4	1	3	-	28	5
Total, engineering(2)	1,419	821	57.9	467	140	138	174	12	3	276	78
Chemical	172	104	60.5	64	26	11	26	1	-	28	12
Civil	192	100	52.1	35	10	14	8	2	1	55	10
Electrical/electronics	274	167	60.9	114	19	37	56	1	1	32	21
Materials science	79	50	63.3	38	21	3	13	1	-	8	4
Mechanical	239	133	55.6	82	20	29	30	2	1	38	13
Total, non-S&E(3)	1,200	768	64.0	164	18	119	14	13	-	532	72
Total, all fields	5,228	3,290	62.9	1,394	628	464	237	58	7	1,612	284

See footnotes at end of table.

Table 15. Science and engineering (S&E) doctorates awarded, by citizenship status, major field, and postgraduation plans of recipients: selected years--continued

		Postgraduation plans									
				Definite plans in the United States							
Citizenship and major field	Total docts	Total with defin plans	% with defin plans	Total	Pdoc study	Acad empl	Indus empl	Other empl	Unkn type	Defin plans abroad	Defin plans locn unkn
YEAR OF DOCTORATE - 1991											
TOTAL(1)											
Total, S&E	23,748	14,988	63.1	12,654	5,214	3,099	2,717	1,587	37	2,089	245
Total, sciences	18,536	12,133	65.5	10,400	4,753	2,637	1,640	1,340	30	1,541	192
Physical sciences	3,602	2,395	66.5	2,044	1,207	156	563	114	4	297	54
Physics/astronomy	1,408	911	64.7	730	496	68	109	56	1	159	22
Chemistry	2,194	1,484	67.6	1,314	711	88	454	58	3	138	32
Earth, atmos, & ocean sci	837	543	64.9	435	188	69	100	77	1	100	8
Mathematics	1,040	598	57.5	507	135	293	54	24	1	79	12
Computer/info sciences	797	500	62.7	420	59	178	157	26	-	75	5
Agric & biol sci	5,714	3,975	69.6	3,388	2,537	385	266	189	11	522	65
Agricultural sciences	1,072	653	60.9	436	164	109	99	63	1	202	15
Biological sciences	4,642	3,322	71.6	2,952	2,373	276	167	126	10	320	50
Social sciences	3,306	2,012	60.9	1,575	161	1,027	111	270	6	410	27
Psychology	3,240	2,110	65.1	2,031	466	529	389	640	7	58	21
Total, engineering(2)	5,212	2,855	54.8	2,254	461	462	1,077	247	7	548	53
Chemical	620	414	66.8	352	63	25	244	19	1	56	6
Civil	509	254	49.9	176	23	64	68	20	1	72	6
Electrical/electronics	1,206	647	53.6	533	92	114	278	47	2	100	14
Materials science	362	209	57.7	150	58	10	66	16	-	56	3
Mechanical	874	443	50.7	357	86	67	154	49	1	76	10
Total, non-S&E(3)	13,703	9,094	66.4	8,212	393	4,834	479	2,443	63	762	120
Total, all fields	37,451	24,082	64.3	20,866	5,607	7,933	3,196	4,030	100	2,851	365
U.S. CITIZENS											
Total, S&E	13,923	10,048	72.2	9,523	3,651	2,434	1,961	1,457	20	441	84
Total, sciences	11,946	8,649	72.4	8,191	3,466	2,131	1,335	1,240	19	386	72
Physical sciences	2,048	1,536	75.0	1,421	745	130	443	100	3	103	12
Physics/astronomy	737	518	70.3	456	274	57	77	47	1	58	4
Chemistry	1,311	1,018	77.7	965	471	73	366	53	2	45	8
Earth, atmos, & ocean sci	584	411	70.4	375	150	66	85	74	-	33	3
Mathematics	439	297	67.7	288	65	168	37	18	-	8	1
Computer/info sciences	379	259	68.3	235	25	114	76	20	-	23	1
Agric & biol sci	3,799	2,828	74.4	2,661	1,923	338	215	179	6	140	27
Agricultural sciences	551	365	66.2	338	107	99	72	60	-	22	5
Biological sciences	3,248	2,463	75.8	2,323	1,816	239	143	119	6	118	22
Social sciences	1,901	1,321	69.5	1,249	119	805	100	222	3	60	12
Psychology	2,796	1,997	71.4	1,962	439	510	379	627	7	19	16
Total, engineering(2)	1,977	1,399	70.8	1,332	185	303	626	217	1	55	12
Chemical	316	245	77.5	236	26	20	171	19	-	7	2
Civil	139	100	71.9	95	8	43	27	17	-	3	2
Electrical/electronics	465	299	64.3	290	33	75	143	39	-	7	2
Materials science	152	107	70.4	89	22	7	48	12	-	17	1
Mechanical	279	202	72.4	196	24	47	83	42	-	5	1
Total, non-S&E(3)	10,798	7,786	72.1	7,569	311	4,356	437	2,404	61	127	90
Total, all fields	24,721	17,834	72.1	17,092	3,962	6,790	2,398	3,861	81	568	174
NON-U.S. CITIZENS, PERMANENT VISAS											
Total, S&E	1,252	671	53.6	575	219	128	185	38	5	75	21
Total, sciences	871	491	56.4	418	195	104	86	30	3	57	16
Physical sciences	178	107	60.1	94	56	7	29	2	-	10	3
Physics/astronomy	69	44	63.8	37	27	2	7	1	-	6	1
Chemistry	109	63	57.8	57	29	5	22	1	-	4	2
Earth, atmos, & ocean sci	26	12	46.2	12	4	-	6	2	-	-	-
Mathematics	55	30	54.5	27	6	14	4	3	-	3	-
Computer/info sciences	62	35	56.5	33	5	6	21	1	-	2	-
Agric & biol sci	263	165	62.7	140	107	12	17	4	-	18	7
Agricultural sciences	56	24	42.9	18	6	3	8	1	-	5	1
Biological sciences	207	141	68.1	122	101	9	9	3	-	13	6
Social sciences	227	106	46.7	83	8	60	3	9	3	18	5
Psychology	60	36	60.0	29	9	5	6	9	-	6	1
Total, engineering(2)	381	180	47.2	157	24	24	99	8	2	18	5
Chemical	44	25	56.8	22	3	-	19	-	-	3	-
Civil	35	16	45.7	13	-	3	9	1	-	2	1
Electrical/electronics	113	58	51.3	49	5	7	33	3	1	6	3
Materials science	25	10	40.0	10	5	-	5	-	-	-	-
Mechanical	59	27	45.8	24	6	5	11	2	-	2	1
Total, non-S&E(3)	562	304	54.1	242	28	170	21	22	1	58	4
Total, all fields	1,814	975	53.7	817	247	298	206	60	6	133	25
NON-U.S. CITIZENS, TEMPORARY VISAS											
Total, S&E	7,252	4,241	58.5	2,551	1,341	536	570	92	12	1,550	140
Total, sciences	4,779	2,971	62.2	1,787	1,090	401	218	70	8	1,080	104
Physical sciences	1,205	747	62.0	527	405	19	90	12	1	181	39
Physics/astronomy	546	348	63.7	237	195	9	25	8	-	94	17
Chemistry	659	399	60.5	290	210	10	65	4	1	87	22
Earth, atmos, & ocean sci	188	119	63.3	48	34	3	9	1	1	66	5
Mathematics	480	270	56.3	191	64	110	13	3	1	68	11
Computer/info sciences	338	206	60.9	152	29	58	60	5	-	50	4
Agric & biol sci	1,451	973	67.1	586	506	35	34	6	5	356	31
Agricultural sciences	424	259	61.1	79	50	7	19	2	1	171	9
Biological sciences	1,027	714	69.5	507	456	28	15	4	4	185	22
Social sciences	996	580	58.2	243	34	162	8	39	-	327	10
Psychology	121	76	62.8	40	18	14	4	4	-	32	4
Total, engineering(2)	2,473	1,270	51.4	764	251	135	352	22	4	470	36
Chemical	238	143	60.1	94	34	5	54	-	1	45	4
Civil	303	136	44.9	68	15	18	32	2	1	65	3
Electrical/electronics	554	290	52.3	194	54	32	102	5	1	87	9
Materials science	164	92	56.1	51	31	3	13	4	-	39	2
Mechanical	457	213	46.6	136	55	15	60	5	1	69	8
Total, non-S&E(3)	1,600	986	61.6	396	54	304	21	16	1	564	26
Total, all fields	8,852	5,227	59.0	2,947	1,395	840	591	108	13	2,114	166

(1) Total includes doctorate recipients of unknown citizenship.
(2) Subtotal includes doctorate recipients whose engineering fields are not separately shown.
(3) Non-S&E doctorate recipients include those whose field of specialization is unknown.

SOURCE: National Science Foundation/SRS, Survey of Earned Doctorates

END

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